April 1986 No. 49

98p

sinclair user

BRITAIN'S BEST SELLING COMPUTER MAGAZINE

KNIGHT TYME

Spellbound in space

128 SUPPLEMENT

MAX HEADROOM • SPITFIRE 40 •

THE PLANETS

LONG RANGE MAP FOR DESTINATION SELECT.

VIEW FROM WINDOW OF THE SURFACE OF PLUTO

IN ORBIT AROUND EARTH. WILL IT SURVIVE?

AN ALIEN GAME – BUT WHAT DOES IT MEAN?

The Year is 2007. Life on planet Earth is coming to an end. A series of monumental natural disasters has thrown the Earth's climate into a deadly spiral – a second Ice Age has already begun. The skies are black with volcanic dust. Massive earthquakes hamper the world's futile attempts to cope with the changing environment. All seems doomed. Into this darkening chaos an Alien life force makes its presence known. A metal capsule plummets unscathed through the atmosphere. It contains a map of the Solar System and shows the position of eight similar capsules, one for each of the Earth's planetary neighbours, Mercury, Venus, Mars, Jupiter, Saturn, Neptune, Uranus and Pluto.

A radio signal is received from deep space. When decoded it is found to be a computer program. The program is loaded into a suitable microcomputer. A strange game unfolds which appears to obey certain complex rules – but there are no instructions or explanations. It is obviously of great significance, but what does it mean?

A spacecraft is prepared in a desperate bid to reach the eight remaining capsules. You are selected as its pilot. The hopes of the world go with you.

This outstanding program is much more than a game. Using stunning state of the art graphics and the latest programming techniques, the Solar System in all its power and mystery will unfold before your eyes. Heather Couper, President of the British Astronomical Association has been fully involved in its computerised creation to make sure that everything is as accurate and up-to-date as possible. Even the results of Voyager 2's recent encounter with Uranus have been incorporated into the design of that cold and inhospitable world.

And yet it is a game, and a very challenging one at that. The Solar System, the strange alien game, the eight mysterious capsules are all interconnected. Together they hold the key to survival of life on Earth.

For those able to reach all eight capsules and make sense of all that they find – there are prizes to be claimed, but for all who attempt this exciting quest, the journey itself will prove more than worthwhile.

THIS PROGRAM USES OVER 125K OF MEMORY.

SPECTRUM 48K (Twin Cassette Pack) and 128K **£9.95**

Available from all good retail shops or order today by mail.
Price includes VAT and p & p.

Send order to:
Software Communications Limited,
Martech House, Bay Terrace, Pevensey Bay, Sussex BN24 6EE
TRADE ENQUIRIES WELCOME PHONE (0323) 768456
TELEX: 87465 EXIM Brighton

martech in association with CHANNEL FOUR TELEVISION

TECHNICAL CONSULTANTS Heather Couper and Nigel Henbest

MORE SOFTWARE, MORE CHOICE, MORE RANGE, MORE VALUE.

SOFTWARE WORLD

Welcome to Software World. May we take this opportunity of giving you an example of the quality and range of software that our mail order catalogue features.

Software World's commitment is to supply the largest range of software for all machine types. This will encompass the software areas of games, education and business.

The first edition of Software World will appear exclusively in the next issue of both Computer and Video Games and Commodore User, and it's completely free!! It will have 32 pages of new and established hit titles, and will be supported by further editions during the summer, autumn and Christmas periods.

To become the greatest Gladiator of all time you, Marcus of Massina, must fight your way to freedom. Otherwise death comes quickly!

Gladiator is without doubt the most brilliant combat simulation – you will be amazed by the lifelike figures – they're truly remarkable.

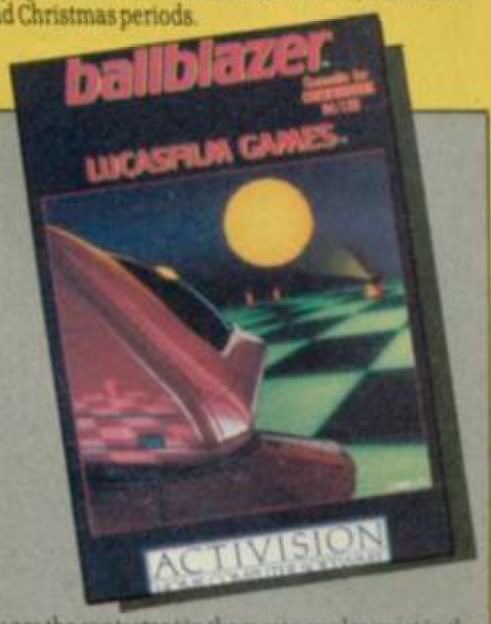
The effect of this game may take years off your life!

Gladiator Spectrum 128K £9.95
Spectrum 48K £8.95 MSX £8.95

For the first time the Football Association has given full endorsement to a computer game.

Sportswriter Tony Williams has teamed with Virgin Games to produce the most realistic football simulation yet. It is based on true F.A. Cup form as you will see from the realistic results this game produces.

FA Cup
Spectrum 48K/Amstrad/C64 cassette £7.95



You are the contestant in the most popular sport in the universe. Jump immediately into head-to-head action against a friend, or hone your skills against a selection of Droids™, either way, you're in for the match of the century!

Ballblazer
C64 cassette £9.99 Atari cassette £9.99
C64 disk £14.99 Atari disk £14.99
Spectrum 48K £7.99 Amstrad cassette £9.99
Spectrum 128K £14.99 Amstrad disk £14.99

You can almost feel the tension of the big match – SMASH! . . . a great shot opens the score . . . but this is only your first point! Play head to head or against the computer in this, Konami's first and best table-tennis simulation.

Ping Pong Spectrum cassette £7.95
Amstrad cassette £8.95 C64 cassette £8.95

You are about to captain your ship through one of the great edge-of-your seat adventures of the 35th Century.

Take command with detailed graphics, realistic sound and the finest bridge instrumentation of the 35th Century has to offer. Keyboard or joystick controlled.

Psi Five Trading Company C64 disk £14.95
C64 cassette £9.95

SOFTWARE WORLD
The UK's largest mail order catalogue for computers used in the home

Please send off for your free Catalogue to the address below. Catalogue available from 31st March '86.

Title Mr/Mrs/Miss	Initials	Surname	Make of Computer Games	Total Price	Qty
Address *(please print clearly)*			1.		
House Name or No:			2.		
Street:			3		
Town:			4.		
County:		Postcode:	5.		
Send to: Wheatley House, Teeton Lane, Creaton, Northampton NN6 8NL. *Cheques/Postal Orders payable to: Software World. Allow 28 days for delivery.*			Handling and Delivery – 50p *(Free on orders over £10.00)*		
			Total		
			Date:	Signed:	

C · O · N · T

sinclair user
BRITAIN'S BEST SELLING COMPUTER MAGAZINE

Editor
Bill Scolding

Deputy editor
John Gilbert

Staff writers
Chris Bourne
Clare Edgeley

Designer
Gareth Jones

Editorial secretary
Norisah Fenn

Adventure writers
Richard Price
Gordo Greatbelly

Helpline
Andrew Hewson

Hardware correspondent
John Lambert

Business correspondent
Mike Wright

Contributors
Nicole Segre
Jerry Muir

Advertisement manager
Louise Fanthorpe

Advertisement sales executive
Kathy McLennan

Production assistant
Jim McClure

Advertisement secretary
Linda Everest

Subscriptions manager
Carl Dunne

Publisher
Terry Pratt

Telephone
01-251-6222

Sinclair User is published monthly by EMAP Business & Computer Publications

Cover illustration
David Lloyd

If you would like to contribute to Sinclair User please send programs or articles to:

Sinclair User
EMAP Business & Computer Publications
Priory Court
30-32 Farringdon Lane
London EC1R 3AU

Original programs should be on cassette and articles should be typed. Please write Program Printout on the envelopes of all cassettes submitted. We pay £20 for each program printed and £50 for star programs.

Typeset by Saffron Graphics Ltd, London EC1.
Printed by Peterboro' Web, Woodston, Peterborough.
Distributed by EMAP Publications Ltd.

© Copyright 1986 Sinclair User

ISSN No 0262-5458

ABC 90,215 July-Dec 1985

Max Headroom

Friday 13th

The Planets

Animator 1

SOFTWARE

MAX HEADROOM PREVIEW
HOCUS FOCUS PREVIEW
FRIDAY 13TH
THE PLANETS PREVIEW
ZORRO
BENNY HILL'S MADCAP CHASE!
SPITFIRE 40
SKYFOX
YABBA DABBA DOO
SHOW JUMPING
HYPA RAID
REALM OF IMPOSSIBILITY
GERRY THE GERM
THE GIDDY GAME SHOW
BRUCE FORSYTH'S PLAY YOUR CARDS RIGHT

ADVENTURE

TEMPLE TERROR
MURDER HUNT
THE HOLLOW
RUNESTONE

UTILITIES

ANIMATOR 1
ICON GRAPHIX
LASER BASIC/LASER COMPILER

HARDWARE

Kempston Mouse 96
The complete graphics package

Trojan Light Pen 96
At last — a light pen that works

128 Disc Drive 97
We review the first disc system for the new Spectrum 128

System 7 Reset Switch 97
Reduce wear on your sockets

COMPETITIONS

Show Jumping Quiz 24
Win a Spectrum 128 in our great new show-jumping contest — a challenge your horse certainly can't refuse

CONTENTS

QUICKSILVA	12
QUICKSILVA	12
DOMARK	33
MARTECH	35
US GOLD	37
DK'TRONICS	38
MIRRORSOFT	40
ARIOLASOFT	43
QUICKSILVA	44
ALLIGATA	46
ATLANTIS	47
ARIOLASOFT	49
FIREBIRD	49
MIRRORSOFT	50
BRITANNIA	50
ATLANTIS	71
BODKIN	71
GILSOFT	73
FIREBIRD	75
SOFTCAT	84
AUDIOGENIC	84
OCEAN	85

Benny Hill

Spitfire 40

Show Jumping

norvat travels west.
norvat is standing on open ground, looking west towards the water.
norvat makes pathetic whimpering noises.
norvat is carrying nothing.
Runestone

128 SPECIAL

128 Launch 53
How the new machine was born

DALEY'S SUPERTEST	55
NEVERENDING STORY	55
LODE RUNNER	55
GLADIATOR	57
TECHNICAN TED	57

KNIGHT TYME PREVIEW	58
SWEEVO'S WHIRLED!	60
ROCKY HORROR SHOW	60
THREE WEEKS IN PARADISE	61

128 Music 63
Chris Bourne takes you through the programming of a simple piece

LISTINGS

Death Duel 99
Push your reflexes to the limit in this one or two player machine-code all-action bike game

Hall of Slime 101
Fight the good fight against the crawling slime. We've added notes to help you understand each section

FEATURES

Enigma Force 103
Join Zark, Syylk, Sevrina and Maul as they guide you to victory in their fight against Zoff

Fairy Story 107
Andrew Hewson tells tales. Any similiarity to real people is, of course, purely coincidental

QLINK

Join the club 88
John Gilbert examines the level of backup support for QL users

QL Paint 88
Sinclair's graphics package

Pro Fortran-77 88
Prospero produces a version of the scientists' favoured language

The Wanderer 89
Pyramide's 3D space game

QL Printer 92
John Lambert investigates three printers for the QL including the new badged machine from Sinclair

REGULARS

News	7
Top 30	11
Letters	17
Zapchat	28
Adventure Helpline	67

Gordo Greatbelly expands!

Hewson's Helpline	80

Andrew Hewson examines arithmetic on the Spectrum and provides some pointers for 128 programmers

Sinclair Surgery	95
Next Month	113
Gremlin	114

Laser Genius

AN EDITOR, ASSEMBLER, MONITOR AND ANALYSER THAT REPRESENTS A NEW APPROACH TO MACHINE CODE DEVELOPMENT.

THE EDITOR

Produces tokenised source files which occupy about half the normal space and accelerate assembly to three times the normal speed.

* *Source files can be loaded/saved to and from tape and disc from within the editor. Source files from other popular assemblers can be loaded and tokenised.*
* *A full screen editor which replaces conventional text handling with a block/paragraph numbering scheme.*

THE ASSEMBLER

A full two-pass macro assembler (co-resident with the editor) which supports input/output from tape and disc, conditional assembly, intelligent assembly of subroutine libraries and inclusion of named files from tape or disc.

* *Built in calculator with access to symbol table after assembly.*
* *Symbol table may be saved and loaded for cross reference and selective assembly of subroutine libraries.*
* *Z80 mnemonics can be freely mixed with Phoenix, a high level compiling language.*

THE MONITOR

has all the usual features of a relocatable front-panel debugger plus:

* *Disassembly to screen, printer, tape or disc with CALL and JUMP labels automatically generated. Disassembled files can be loaded into the assembler, edited and re-assembled.*
* *4 slow running modes with a trace facility that allows the path of a program to be stored so that bugs can be traced back to their source.*
* *17 types of breakpoints are available – up to 8 can be set at any one time. Options include "down-count" and control of slow run modes.*

THE ANALYSER

A completely new concept in program debugging. This unique utility allows you to execute up to ten analyser programs that scrutinise your machine code program while it is running. When a particular condition is found the program will break with an option to trace the path taken.

For example, if a program crashes, writing extraneous data to the screen, the analyser can be set to run the program up to the point that a 'write' is made to a particular area of the screen. The path can then be listed to find where the error originated.

ocean iq

LASER GENIUS, the definitive system for machine code programming, is part of the OCEAN "Innovation and Quality" range, brought to you with the combined skills and resources of OCEAN and OASIS (producer of "White Lightning"). Other easy to use products in this range will include extended BASICs, Compilers, screen designers, music composers and word processors to make your programming more rewarding and exciting.

SPECTRUM 48K/+/128K **£14.95**

AMSTRAD CPC 464/664/6128 **£14.95** TAPE **£19.95** DISK

Ocean Software is available from selected branches of WHSMITH, John Menzies, WOOLWORTH, LASKYS, Rumbelows, Greens, Spectrum Shops and all good software dealers. Trade enquiries welcome.

6 Central Street, Manchester M2 5NS. Telephone: 061-832 6633. Telex: 669977 Oosans G.

Clive: "no compromise" on Pandora

Pandora — autumn launch

PANDORA, the Sinclair portable computer, is due for launch in the autumn according to Sir Clive Sinclair.

He confirmed that the new take-it-anywhere machine would be based on eight-bit technology which, he believes "will continue to dominate the computer market for a long time. There will be no compromise on price. It will be a truly portable machine, light weight and battery driven." Let's hope it's not powered by those flat Polaroid batteries which are so hard to get hold of.

The Pandora will have an integral flat screen display, similar to that used in the Timex pocket television. Sources close to Sinclair say that it will be four times the size of the current screen in order that the text characters can be read. Sir Clive says "It will not have a liquid crystal display and you will be able to read it in most lighting conditions".

The machine is likely to have 128K RAM which will be banked-switched in a similar way to that of the Spectrum 128. Sir Clive suggested that the operating system will be CP/M-like. If that was the case Sinclair would have to use CP/M Plus which has been implemented on the Amstrad PCW8256. It utilises bank switching but, because of the way it is implemented, is not downwardly compatible with CP/M packages written on earlier versions of the operating system.

Sir Clive would say nothing about the proposed storage medium for the machine. Sir Clive's silicon wafer drive, which is still eagerly anticipated, with its half-megabyte memory could be used but a more likely alternative is a light weight 3.5in disc drive. The microdrives — QL or ZX — would prove almost hopeless as far as CP/M memory requirements, response time and reliability are concerned.

The back-up medium could even be a simple tape recorder. Sir Clive has stated that all 48K Spectrum software will be comptible with Pandora but we've seen few Spectrum game programs on disc.

No price has been put on the machine yet but it is expected to cost within the range of £250-350.

Incompatible Elite

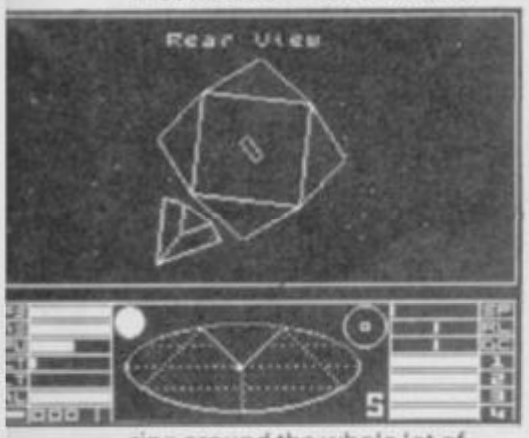
WARNING! The 48K version of **Elite** from Firebird is not compatible with the 128, although it is mentioned in the broadsheet included in the package.

Andy Knott, a spokesman for Sinclair, admits "The inclusion of a title on the broadsheet does not mean that the old 48K version will necessarily run on the 128, though it probably will".

Sinclair declares that **Elite**'s inclusion was a mistake but, according to Phil Pratt of Firebird, a special 128 version of the game will soon be available. "Anyone who owns a 128 and buys the 48K version of **Elite** will get a 128 version if they send the 48K one back to us".

Confusion surrounds the reasons for the mistake but the game appears to have been tested on a Spanish 128 which has a different ROM to that of the British machine.

Alison Maguire, marketing manager of Sinclair Research, was disturbed to hear of the error and stated that Sinclair has now investigated compatibility of products on the broadsheet. "We decided to



ring around the whole lot of them (software publishers) and most have confirmed that the existing product will run on the 128."

The company states that all software designed within its specification guidelines will be compatible but there may still be programs out there which don't work with the machine. We will warn you if that is the case in our reviews, but if you discover an incompatible game or utility — let us know.

Tardy Tardis

DR WHO, from Micro Power, is due to materialise in the high street later this month.

The reason for the delay of the program, which was due out last year, is that the programmer originally doing the coding had to work on other versions of the game. Bob Simpson (above) managing director of Micro Power, explains: 'We have put our top programmer on **Dr Who** and it should be ready by April."

Those who have kept faith will be able to buy the game for £11.95, a lower price than originally stated. Simpson says: "We were going to launch it at £14.95 but now feel that the price might be a bit over the top for Spectrum owners."

128 is selling well

THE 128 has proved popular with most sections of the industry according to Sinclair's only product distributor, Terry Blood Distribution.

Norman Smith, managing director of the company, says: "We see it as a new machine, with a brand new board and a brand new specification. Sinclair has also taken some user requirements into consideration, such as better graphics and noise reproduction. Sinclair Research seems to be a better educated company that it once was.

"Although it's too early to tell how well the machine is doing, we've had no returns and for a new machine that's a good sign. If the standard of the 128 had been introduced with the Plus I'm sure we would have eliminated 50 per cent of returns.

Retailers are also enthusiastic about the new machine. Martin Craswell, a representative of W H Smith, says: "It's early days yet but people will always be interested in a new product. We've had a lot of people through the doors who wanted to look at the machine and it is in about 40 of our bigger stores".

Craswell was surprised to learn of the potential incompatibility of certain 48K programs with the 128 (see separate story). "The only problem with **Elite** that I know of is the bug in the Amstrad version. I haven't heard of any returns".

You can judge whether the 128 is everything your friends are saying about it. Just turn to our special 128 supplement and read about the launch and the software available.

► 9

Direct Mail Discount

SOFTWARE SUPERSAVERS

1.99 each

SINCLAIR	MAGNETS
SINCLAIR	FLIPPIT
SINCLAIR	INCA CURSE
SINCLAIR	SHIP OF DOOM
SINCLAIR	ESPIONAGE ISLAND
SINCLAIR	EMBASSY ASSAULT
SINCLAIR	CHESS
SINCLAIR	REVERSI
IMAGINE	ZOOM
IMAGINE	ZIP ZAP
IMAGINE	PEDRO
IMAGINE	STONKERS
IMAGINE	ALCHEMIST
SILVERSOFT	CYBER RATS
SILVERSOFT	EXTERMINATOR
SILVERSOFT	MISSION IMPOSSIBLE
CHEETAH	3D BAT ATTACK
CHEETAH	CONQUEST
CRYSTAL	HALL OF THINGS
CRYSTAL	THE ISLAND
CDS	TIME BOMB
CDS	WINGED WARLORDS
BUG BYTE	POOL
TERMINAL	VAMPIRE VILLAGE
TERMINAL	SPACE ISLAND
TERMINAL	CITY
CDS	CATERPILLAR
CDS	BOZY BOA
CDS	SPECTRUM SAFARI
CDS	MAGIC MEANIES
CDS	OTHELLO
CDS	LEAPFROG
TERMINAL	CARPET CAPERS
QUICKSILVA	CHESS PLAYER
CDS	GERMAN IS FUN
CRL	GLUG GLUG
CRYSTAL	BUG BLASTER
CRYSTAL	INV. OF THE BODY SNATCHAS
BUG BYTE	AQUARIUS
M SHEPPARD	EVEREST ASCENT
FANTASY	DRIVE IN
VIRGIN	LOJIX
BUG BYTE	STYX
SINCLAIR	SURVIVAL
ASP	STOCK MARKET
ASP	PLANET FALL
ARTIC	REFLECTIONS
ARTIC	SPECTRUM CHESS
ARTIC	COSMIC DEBRIS
ARTIC	3D DIMENSION DESTRUCTION
SINCLAIR	MAKE-A-CHIP
BEYOND	SPELLBOUND
ABBEX	FAUST FOLLY
ABBEX	KOSMOS
CJAMES	JUMP
BEYOND	SPACE STATION ZEBRA
SINCLAIR	CLUB RECORD CONTROLLER
SINCLAIR	COLLECTORS PACK
SINCLAIR	VU-CALC
SINCLAIR	VU-3D
CRL	RESCUE
SILVERSOFT	SAM SPADE
SILVERSOFT	SUPER MUTT
GBHOUSE	MR T TELLS THE TIME
SILVERSOFT	LINKWORD:SPANISH
SILVERSOFT	LINKWORD:GERMAN
KTEL	ROCK'N'ROLL/DRACULA
KTEL	TOOTHPASTE/COLDITZ
KTEL	MARINA/ALIEN SWARM
VISION	NIFTY LIFTY
VISION	ARCTURUS
ADVENT	SPIDER MAN
LONGMAN	FIRST MOVES(CHESS)
LONGMAN	COUNT ABOUT
LONGMAN	LUNAR LETTERS
LONGMAN	HOT DOT SPOTTER
LONGMAN	SUM SCRUNCHER
LONGMAN	ROBOT RUNNER
LONGMAN	WILD WORDS
LONGMAN	ABC LIFT-OFF
LONGMAN	RIDDLE OF THE SPHINX
LONGMAN	SNAFFLE
LONGMAN	WORD WIZARD
LONGMAN	GO MICRO
IMAGIC	GRADONFIRE
IMAGIC	MOONSWEEPER
CHEETAH	PERILS OF BEAR GEORGE
RABBIT	PARATROOPERS
RABBIT	PHANTASIA
RABBIT	QUACKERS
RABBIT	CENTRO PODS
INCEPT	ARABIAN NIGHTS
TERMIN	LAZY JONES
CENTUR	TACHYON COMMAND
CENTUR	SCUBA ATTACK
ARROW	FIRE ON THE WATER
ARROW	FLIGHT FROM THE DARK
IMAGIN	COSMIC CRUISER
IMAGIN	POLAR MAUL
IMAGIN	BC BILL
OMEGA	WILD WEST
OMEGA	MURDER AT THE MANOR
GRIFF	MATHSKILL II

2.5 each

FANTASY	THE PYRAMIDS
CDS	CASTLE BLACKSTAR
GMSMC	BARRELDROP
GMSMC	SUPERSNAILS
GMSMC	SKULL
LEGEND	VALHALLA
LEGEND	THE GREAT SPACE RACE
CARNELL	DEVIL RIDES IN
LLAMASOFT	HEADBANGERS HEAVEN
COLLIN	WHAT'S THE TIME
COLLIN	KNOW YOUR TABLES
COLLIN	FIRST NUMBERS
COLLIN	STARTER PACK 1
COLLIN	STARTER PACK 2
COLLIN	GAMES WRITER
COLLIN	PADDINGTON'S DISSAP.
COLLIN	EARLY VISIT
COLLIN	SUPER WRITER
COLLIN	NURSERY RHYME
COLLIN	PADDINGTON'S GARDEN
COLLIN	CAR JOURNEY
COLLIN	SPECIAL REPORT
COLLIN	BALLOONING
COLLIN	PUNCTUATION PETE
GRIFF	WORDSPELL
GRIFF	TABLE SUMS
GRIFF	NUMBER FUN
GRIFF	GETSET
GRIFF	WORD GAMES
GRIFF	FAIR SHARE

2.95 each

QUICKSILVA	FRED
MISC	COMPUTER CARE KIT
HEWSON	SPACE WAR 3D
M SHEPPARD	URBAN UPSTART
PSS	XAVIAR
KNIGHT	ANIMATED STRIP POKER
DOMARK	A VIEW TO A KILL
ADVENT	HULK
DOMARK	CODE NAME MATT II
USGOLD	FLAK
CSPARK	TOWER OF EVIL
TYNSFT	O LEVEL PHYSICS
TYNSFT	O LEVEL CHEMISTRY
TYNSFT	O LEVEL MATHS
TYNSFT	O LEVEL BIOLOGY
ARROW	FLIGHT FROM DARK + BOOK
ARROW	FIRE ON THE WATER + BOOK

3.5 each

C RENT	GOLF
OCEAN	MR. WIMPY
ULTIMATE	COOKIE
PROCOM	BONKERS
THORN EMI	VOLCANIC PLANET
THORN EMI	GOLD RUSH
THORN EMI	RIVER RESCUE
MIMEDA	CODENAME MATT
HEWSON	FANTASIA DIAMOND
MIRRORSOFT	QUICK THINKING
A'N'F	CHUCKIE EGG
A'N'F	CHUCKIE EGG II
LONGMAN	ZODIAC MASTER
USGOLD	BEACH HEAD

4.95 each

BEYOND	PSYTRON
DOMARK	EUREKA
ATARI	Ms. PACMAN
ATARI	GALAXIAN

5.95 each

FANTASY	BACKPACKERS
BEYOND	LORDS OF MIDNIGHT
ATARI	PACMAN
NEW GEN.	JONAH BARRINGTONS SQ

6.95 each

HARESOFT	HARERAISER
QUICKSILVA	GAMES DESIGNER

9.95 each

BEAU JOLLY MEGAHITS
INC. 3D STARSTRIKE, BLUE THUNDER,
SON OF BLAGGER, AUTOMANIA,
BUDABOO, PSYTRON,
WHEELIE, FALL GUY
BLADE ALLEY, PENETRATOR.

COMPUTER BOOKS all 2.50 each

CREATING ADVENTURE GAMES ON YOUR SPECTR
60 GAMES FOR THE SPECTRUM
PROGRAMMING YOUR ZX SPECTRUM
INSTANT SPECTRUM PROGRAMMING
DELVING DEEPER INTO YOUR ZX SPECTRUM
49 EXPLOSIVE GAMES FOR YOUR ZX SPECTRUM
MICRO ENQUIRER
EXPLORING THE SINCLAIR QL
DESK TOP COMPUTING WITH QL
ADVANCED PROGRAMMING WITH QL
INTRO TO SUPERBASIC
WORD PROCESSING WITH QL
DATABASE MANAGEMENT ON QL
MAKING THE MOST OF QL
MACHINE CODE PROGRAMMING ON QL

SPECIAL GIFT PACKS all 4.99 each

GAMES PACK: Jigsaw,Reflections,
-Dimension Destructors, Spectrum Chess,
-3D Quadracube, Road Racers.

ACTION PACK: Billy Bong, Two-Gun Turtle
-Micro Mouse, Beetlemania,
-Bedlam Blaster, Grid Patrol.

STAR WAR PACK: Time Tunnels,Five Dice,
-Pal Games, Mothership,
-Spacewreck, Cosmic Debris.

WARMASTER PACK: Panzer Attack, Red Baron,
-Dreadnoughts, Paras.

SPORTS PACK: As Below!-

TOTAL GAME CONTROL

with... PROTOCOL 4

advanced game controller interface for the ZX Spectrum/Spectrum Plus

NEW LOW PRICE 19.95

£1.00 P&P

How to use Protocol 4

For control options AGF, Protek, cursor, Sinclair player 1 or player 2: select the appropriate pre-set card

For Kempston: set the Mode Switch DOWN.

Programming Custom Cards

Programming a Custom Card will be necessary when the game you wish to control does not offer joystick options. Custom Cards can be reprogrammed as often as you like.

The interface is supplied with three pre-programmed and two blank cards with programming page.

CUSTOMCARD 5-PACK Only £2.85 QUICKSHOT II Only £7.95 post free

TELETEXT-SOFTWARE ADAPTOR

JOIN THE TELETEXT REVOLUTION !

The AGF TELETEXT-SOFTWARE ADAPTOR turns your Spectrum/+/128 into a teletext decoder in conjunction with your home video allowing access to all CEEFAX and ORACLE services on any TV that would normally require a special TELETEXT receiver.

Not only that but by using your Spectrum as an 'intelligent' decoder you are afforded extra benefits such as full screen saving to your ZX or similar printer that uses the COPY command and the ability to SAVE any information of interest onto cassette or microdrive.

FREE TELESOFTWARE ON 4-TEL

Yet another great bonus is TELESOFTWARE. Programs that you can download from the teletext signal absolutely free by simply selecting the appropriate page and pressing a key.

Hundreds of pages are available on teletext covering a wide range of topics, write to us for a detailed leaflet and the full specification of the adaptor which comes fully cased with through port and 12 months guarantee.

still only 79.95 +£1 P&P

SELECTED HARDWARE

SINCLAIR 2" FLAT SCREEN POCKET TV	£ 74.95
POCKET TV MAINS ADAPTOR	£ 7.50
POCKET TV BATTERY PACK (3)	£ 9.31
SPECTRUM + 48K	£119.95
QL RS232 LEAD	£ 9.31
VTX 5000 MODEM	£ 46.95
CUMANA MICROSPEECH SYNTHESISER	£ 17.93
CUMANA MICROSLOT 2 WAY EXPANSION SYSTEM	£ 6.00
DK'TRONICS KEYBOARD	£ 27.95
DK'TRONICS LIGHT PEN	£ 18.75
SAGA 1 KEYBOARD	£ 37.95
SINCLAIR ZX EXPANSION PACK	£ 93.51
INC. ZX I/F 1, MICRODRIVE + 4 CARTS-TASWORD 2, MASTERFILE, 3D ANT ATTACK, DEMO + BLANK.	
ZX MICRODRIVE	£ 44.73
ZX INTERFACE 1	£ 46.95
MICRODRIVE CARTRIDGES (SINGLE)	£ 1.84
MICRODRIVE STORAGE BOX (TAKES 20)	£ 5.57
ZX I/F 1 RS232 LEAD	£ 9.31
2-WAY JOYSTICK LEAD (2 *STICKS ON ONE PORT)	£ 3.50
MAINS SURGE PROTECTOR (FITS STD. 13 A SKT)	£ 11.23
SPECTRUM 48K OR PLUS POWER SUPPLY	£ 7.47
SHADO DATA RECORDER	£ 22.00
BLANK C12 CASSETTES (IN LIBRARY BOXES)	£ 0.29
ROTRONICS 64K CARTRIDGE	£ 2.75
MEMOREX 5.25 SSDD X 2	£ 4.75
MEMOREX 3.5 SSDD X 1	£ 5.75
MERCURY MOONRAKER JOYSTICK	£ 5.95
PRINTER PAPER AND RIBBONS	
TIMEX 2040 5 ROLL PK. (SUITS ALPHACOM 32)	£ 6.50
ZX PRINTER PAPER 5 ROLL PK	£ 11.18
BROTHER HR5 THERMAL 30M ROLL	£ 4.65
BROTHER HR5 RIBBON	£ 2.95
11 X 9.5" SINGLE PART TRACTOR FEED X 2000	£ 12.95

PLEASE ADD £1.00 P&P TO ITEMS OVER £15.00. OTHERWISE POST FREE

Terms:-

Hardware

All products are offered subject to availability and on 14 days approval. Please allow up to 28 days from receipt of your order.

Software

All products are offered subject to availability and faulty tapes will be replaced free of charge by the same title if returned within 14 days of receiving them. After this period we will replace faulty tapes with the same title at a replacement cost of 50p per cassette.

All titles are genuine originals that have become liquidation stocks which is why there are some very keen prices.

If you do not wish to order from us at the moment why not join our FREE mailing list by simply sending us your name and address

QTY	NO.	ITEM	PRICE

PLEASE ADD 20P PER TITLE FOR P&P

TOTAL

Please tick appropriate box :-

I enclose a cheque Postal Order for £

Please charge my Access Barclaycard Account No

Exp. Signature

From: MR MRS MISS

ADDRESS

24 hrs (0243) 823337

AGF Direct Mail Discount, Unit G, Ashgrove Industrial Park, Bognor Regis, West Sussex.

REMOTE-CONTROL !

USE WITH ANY SPECTRUM JOYSTICK INTERFACE FOR REMOTE CONTROL

only 7.99 WIRELESS JOYSTICK +40P P&P

C5 takes to the skies

SIR CLIVE SINCLAIR is planning to launch a microlite aircraft later this year, powered by electricity.

The entire project has been kept under wraps for some time, but sources at the secret Winchester research plant confirm that the revolutionary plane will use technology developed during work on the C5 electric tricycle.

The machine will use a modified version of the C5 motor, driving two rear-mounted propellors. A heavy duty cable will transmit the power to the propellors, delivering a maximum airspeed of up to 25mph.

Initial models will be single-seater only, and may require a tow when taking off from level ground to deliver an initial thrust to the engine. The batteries will provide about 15 minutes worth of level flight in appropriate weather conditions, but Sinclair Research is understood to be investigating the possibilities of air-to-air recharging.

The machine should cost somewhere in the region of £799.95 and Sir Clive is expected to make an announcement concerning its availability some time in the first week of April. The product is to be aimed at the urban commuter market.

Although no official statement has yet been made, the British Safety Council has already expressed concern. A spokesman said, "We utterly condemn this extremely hazardous machine. Sir Clive seems to have his head in the clouds." London Regional Transport is also said to be preparing a report on the feasibility of using bus lanes as emergency landing strips, one of the major planks of Sinclair Aviation's marketing strategy.

Modem muddle on the 128

THE NEW Spectrum 128 is causing all sorts of problems to those who want to use existing peripherals with the new machine. In the absence of a definitive list of what is, and is not, compatible, here are a few rules of thumb to follow.

If a peripheral uses ROM calls or has a power supply of its own, such as printer interfaces in the first case or disc drive systems in the second, it's most unlikely to work. Stuff that simply reads the keyboard, such as joystick interfaces, ought to be OK — but nothing is guaranteed.

Sinclair User has received a number of enquiries as to the compatibility of the VTX5000 modem, which gives access to Prestel and Micronet 800. The short answer is no, but it is actually possible to use the VTX5000 with a Spectrum 128 provided that you already have a 48K Spectrum, or are prepared to undertake hardware modifications.

Instructions on how to fix your modem up for Micronet are available on page 800001341 of Micronet, but that involves the soldering iron. If you already have a 48K Spectrum you could transfer the software that the modem dumps into the Spectrum to tape — SAVE "VTX" and SAVE "VTX" CODE 30000, 65536–30000 and then reload the software into the 128 after going into 48K mode. In that case you may see several multicoloured crashes before you get the normal loading screen — our resident hacker reckons these won't damage the 128 but continual resetting with short intervals between each reset will.

Sinclair Research points out that "anybody using the modem without BT approval runs a serious risk of prosecution. In the event of the Spectrum 128 being damaged, the guarantee would be void."

In fact, it's most unlikely you would be prosecuted, although anybody using 'unofficial' modems may have them confiscated if they're foolish enough to leave the system lying around when a BT engineer comes to call. The guarantee threat is worth thinking about, though.

Meanwhile, the best advice is probably to leave well alone and wait for a proper modem to be developed. Micronet is currently talking to several companies about the production of such a modem, which would only require minor changes to the VTX5000 system to operate perfectly. If you want to fiddle around in the meantime, on your own heads be it!

Hewson shoot 'em up

HOT ON the heels of the **Technician Ted Mega-Mix** Hewson is about to launch **Quazatron,** a shoot 'em up by the author of the Seiddab games.

Your Meknotech robot must battle with the battle droids and repair mobiles of Quazatron, the mechanised subterranean city.

The program, which was formerly titled Ziggurat, will be available for the Spectrum and 128 from April 28.

Pocket TV price drop

TIMEX has taken over the worldwide marketing of the Sinclair flat screen television but Sinclair has not relinquished all rights to the product.

The move heralds both a price drop of £20, making the pocket television £79.95, and a rigorous sales campaign in stores such as Dixons.

Sinclair intends to use his flat screen technology in the Pandora so it is sensible for him not to give all rights to Timex. The deal can be seen as yet another way in which Sinclair can pay off his remaining debts to Timex while continuing to trade.

Filling the screen

EUREKA! I have found it and I can have it any size on the screen, thanks to Domark's new wonder monitor for the 128.

It contains two unusual features. The first is that you can alter the size of the central screen display, to fill the screen with animated action and without the usual Spectrum border display. You can also switch from medium resolution colour to a high resolution green screen display.

Unlike other monitors the Eureka! has a sound amplifier which takes advantage of the 128's music capabilities. The monitor supplies the 128 with power through the computer's edge connector. In that way the need for more than two leads — computer and tape recorder — is eliminated.

Domark hopes that the Eureka! will cost less than £250 but has yet to set a price.

Sinclair — looking good

THE financial disaster which threatened Sinclair Research is over for the present, according to Sir Clive Sinclair.

He stresses that no company can boast that it is completely free of monetary problems but his current worries appear to be over. "We have paid off £10 million, that's over half of what we owe."

Sinclair's close brush with receivership occurred because over-zealous retailers bought too many computers for the Christmas of 1984. They were not able to sell stocks and, Sinclair was not able to sell any more of its machines until stocks were depleted.

Fortunately creditors such as the city banks and manufacturer Timex were willing to receive back payments according to a financial plan implemented in September 1985.

Sir Clive is confident that "we will be able to announce a profit for the year beginning April 1 1986".

► 10

Beegles zee hero

"AAH! Zee faymous Beegles," smirks arch-villain von Stahlein. Aah, zee faymous movie spin-off, groans the cynical computer games player.

Yes, Mirrorsoft has come up with the rather splendid wheeze of basing an arcade game on the soon-to-be-released film *Biggles — the Untold Story*. And, as is the way with such things, the game bears only the slightest resemblance to the source material.

Which is probably just as well, because the movie is a horrendous mishmash of war film and the time travel hokum which would have author Capt W E Johns doing aerial stunts in his grave.

The setting is supposedly the Western Front in 1917, interspersed with leaps to London, 1986, the time in which Biggles' time-twin Jim Ferguson lives. Jim jets back and forth across the years, helping out ace pilot James Bigglesworth whenever he is in a spot of bother.

Nasty German secret weapons, nuns, helicopters and caves all form part of the ludicrous plot. The attention to detail leaves the mind biggling — sorry, boggling. Our hero's Sopwith Camel is actually a not-so-cunningly disguised Tiger Moth training aircraft.

But enough of the film. **Biggles — the Complete Game,** as yet unfinished, sounds marginally more interesting, as it features random flips through time from one arcade sequence to another, whenever you're in danger of losing a life. The sections include a search through subterranean caves and a dogfight between von Stahlein's bi-plane and a police helicopter.

Mirrorsoft plans to unleash Beegles in May for £9.95.

The cost of MUD

MULTI-USER Dungeon, British Telecom's modem-linked adventure game, is on line for paying customers.

Until recently, players have been using the system free of charge because BT has been testing **MUD** for bugs. A spokesman for New Information Services, the division of BT running the game, says "I'm now confident enough to start charging players for turns in the game".

To join **MUD** you must have a modem — to connect you with other players over the 'phone lines — and a **MUD** pack.

The pack contains an identity code and instructions for play, together with three hours of playing time. After that players are charged £2.00 an hour. It can be obtained by ringing the **MUD** Line on (01) 606 1173.

Alive and kicking

BLAST compiler publisher OCS has gone into liquidation but OCP Software, producer of **Word Manager** and former publisher of **Art Studio** is still very much alive.

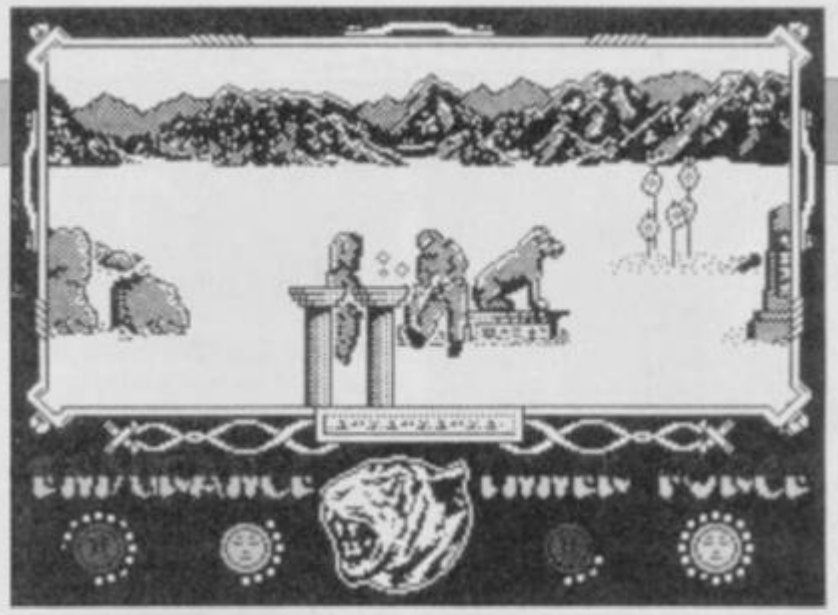
The company has asked us to point out to readers that Oxford Computer Publications has nothing to do with Oxford Computer Systems. Bruce Everiss, a spokesman for OCP, foamed "We've had numerous enquiries asking whether we've gone bankrupt and if we're still selling our products. We are, in fact doing rather well and hope to continue to do so".

Competition for Quill

THE **Graphics Adventure Creator,** from Incentive Software, is set to take on the mighty **Quill** from Gilsoft.

The package, which is compatible with the Plus and 128, will create adventures which allow full sentence input — instead of just verb/noun — full word-length recognition, and text compression, so that games can be large and sophisticated. It also includes a flexible graphics designer.

GAC will be available from May 1 and the price has yet to be set.



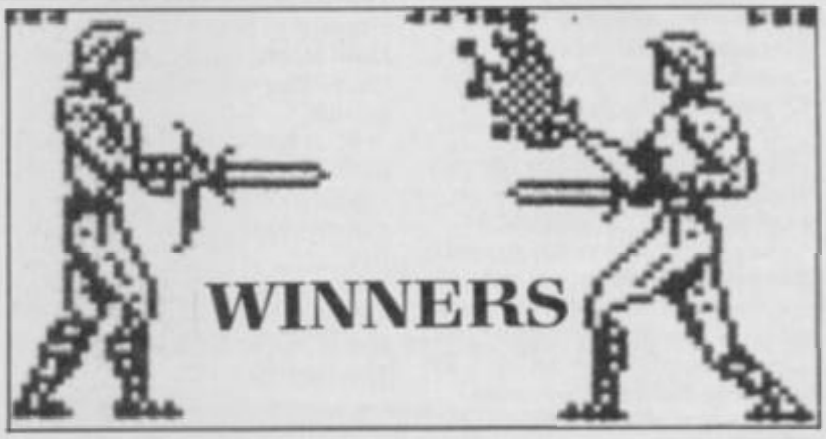
More martial arts

TRAIN to be a master of the martial arts in **The Way of the Tiger,** the first in a series of Gremlin Graphics games, based on the Fighting Fantasy books published by Hodder and Stoughton.

You are taken into the guardianship of Naijishi, Grandmaster of the Dawn, who gives you guidance and training in the nirvana state of goodness called Kwon.

The three stages of the game are unarmed combat, pole fighting and Samurai sword fighting. Why anyone would want to reach such a peaceful exhalted state just to bash the hell out of your opponent with a Samurai sword is anyone's guess.

The Spectrum version, which looks similar to **Way of the Exploding Fist** from Melbourne House, costs £9.95.



IN THE **Gladiator** competition which appeared in the March issue of *Sinclair User,* a Wilkinson Sword was the first prize. Kenneth Russell of Darvel, Ayrshire had a stab at the answers and came up with the correct solution of 1A, 2B, 3B, 4C, 5A.

There were 20 second prizes of a Domark T-shirt and a voucher won by: A Burrows, Crewe, Cheshire, Michael John Brannigan, Colby Newham, Middlesborough; Nicholas France, Helens Bay, County Down; Michael Raunkjaer, Denmark; Kevin MacPherson, Dufftown, Bardfshire; R A Maddock, Worthing, Sussex; Matthew Eva, Wickford Essex; Tony Price, Gorton, Manchester; Mr S Stacey, Enfield, Middlesex; James P Taylor, Stoke Mandeville, Buckinghamshire; P Kitchen, Hull, Humberside; Lee Phillips, Pewdeford, Wolverhampton; Glen Asquith, Benrhdding Ukley, West Yorkshire; Richard Coombes, Shareshill, Wolverhampton; Marcus Fernando, Chelmsford, Essex; Jose Francisco Antimes, Portugal; Danyal Conn, Palmers Green, London N13 4JJ; Richard Wallace, Hexham, Northumberland; James Knight, London SW19; Mr R Tilleray, Banstead, Surrey;

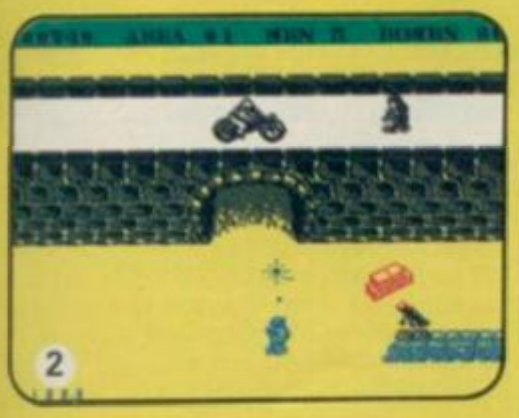
The following 30 runners-up each receive a voucher only: Matthew Baines, Liversedge, West Yorkshire; N P Fabbri, Forest Hill, London SE23; Russell Speight, Chapel Park Estate, Newcastle-upon-Tyne; Andrew Douglas, Stanley, County Durham; Daniel J Barry, Hatfield, Hertfordshire; Mr A Jobber, Tadworth, Surrey; Mr H R Collings, Aldershot, Hampshire; Mr David Lord, Blucher, Newcastle-upon-Tyne; P Rodgers, Danesmoor, Chesterfield; W H Grahmans, Belgium; Mr S Spyve, Conisborough, Doncaster; John Amey, Wirral, Merseyside; Martin Hulston, Gatley, Cheadle; Simon Jackson, Cannock, Staffordshire; Sqn Ldr J L Merriman, BFPO 40; Jeremy Walker, Salisbury, Wiltshire; Barry Davis, Pakenham, Bury St Edmunds; Keith Wallace, Sheffield, Peter A Todd, London NW8; David Middleton, Corston, Wiltshire; David Tyler, Wallasey, Merseyside; Richard Davenport, Gawsworth, Macclesfield; Alan Haigh, Peterhead, Aberdeenshire; Nick Flowers, Hailsham, East Sussex; David Duggan, Grimsby, South Humberside; Mr C S Evans, BFPO 45; Karl McAteer, Finglas South, Dublin; C McGowan, Hull, North Humberside; Martin Browell, Alnwick, Northumberland; S Griffiths, Smallbride, Rochdale.

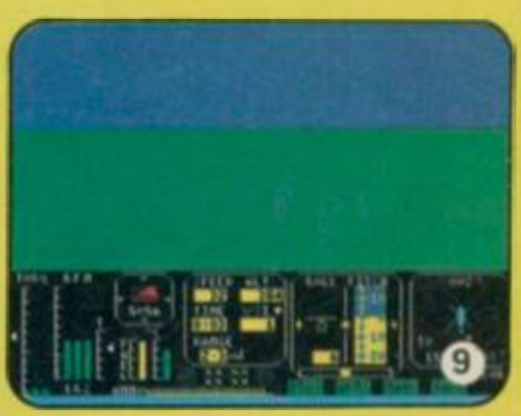
GALLUP TOP 30 CHARTS

1	▲	WINTER GAMES	EPYX/US GOLD
2	◇	COMMANDO	ELITE
3	▲	SPELLBOUND	MASTERTRONIC
4	◇	RAMBO	OCEAN
5	▲	MOVIE	IMAGINE
6	▲	BARRY McGUIGANS BOXING	ACTIVISION
7	◇	YIE AR KUNG FU	IMAGINE
8	▲	CAVES OF DOOM	MASTERTRONIC
9	◇	TOMAHAWK	DIGITAL INTEGRATION
10	▲	GUNFRIGHT	ULTIMATE
11	▲	HYPERSPORTS	IMAGINE
12	▲	ZOIDS	MARTECH
13	◇	SABOTEUR	DURDURELL
14	◇	ELITE	FIREBIRD
15	▲	BMX RACER	MASTERTRONIC
16	▲	SPITFIRE 40	MIRRORSOFT
17	◇	FINDERS KEEPERS	MASTERTRONIC
18	◇	THEY SOLD A MILLION	HIT SQUAD
19	▲	ACTION BIKER	MASTERTRONIC
20	▲	EMPIRE FIGHTS BACK	MASTERTRONIC
21	◇	FORMULA 1 SIMULATOR	MASTERTRONIC
22	◇	BACK TO SKOOL	MICROSPHERE
23	◇	DALEY THOMPSONS SUPERTEST	OCEAN
24	◇	LORD OF THE RINGS	MELBOURNE HOUSE
25	▲	WEST BANK	GREMLIN GRAPHICS
26	◇	NOW GAMES 2	VIRGIN
27	▲	ONE MAN AND HIS DROID	MASTERTRONIC
28	◇	COMPUTER HITS 10	BEAU JOLLY
29	◇	INTERNATIONAL KARATE	SYSTEM 3
30	◇	ARCADE HALL OF FAME	US GOLD

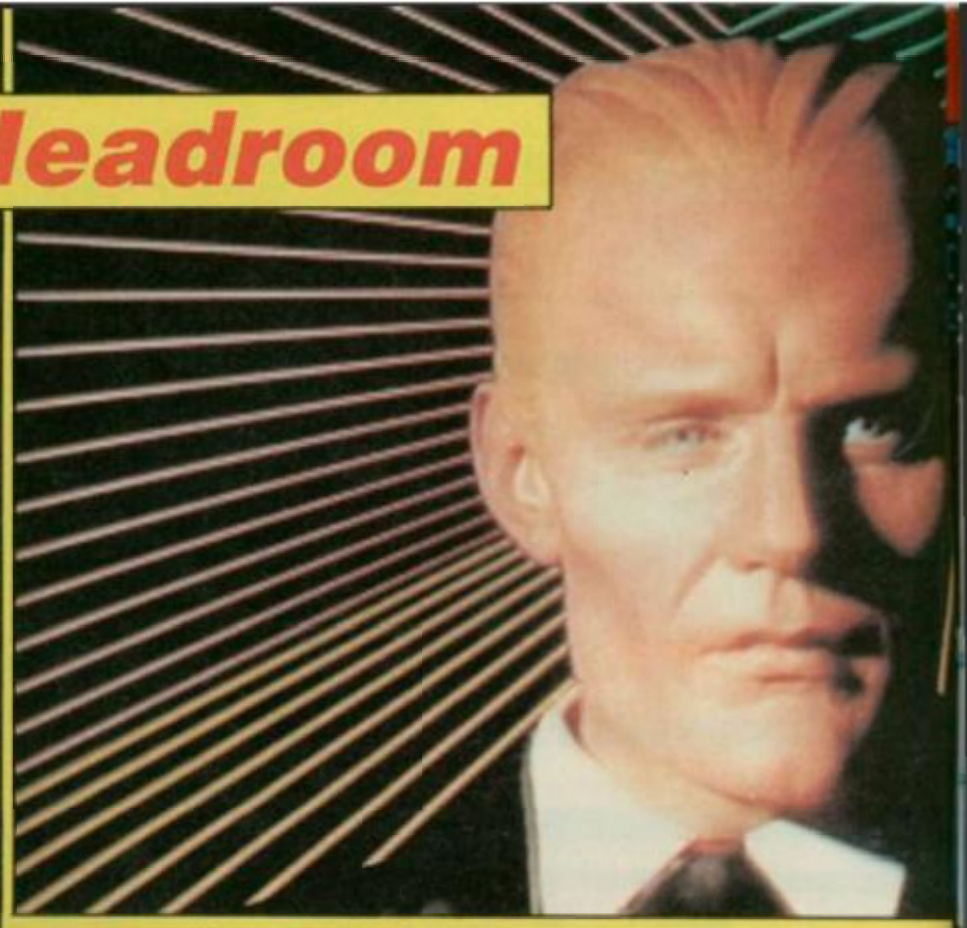
BUBBLING UNDER

	MIKIE	IMAGINE
	SOUL OF A ROBOT	MASTERTRONIC
	SWORDS AND SORCERY	PSS
	GLADIATOR	DOMARK
	YABBA DABBA DOO	QUICKSILVA
	SWEEVO'S WORLD	GARGOYLE
	THREE WEEKS IN PARADISE	MIKRO-GEN
	SINBAD AND THE GOLDEN SHIP	MASTERTRONIC
	ZORRO	US GOLD
	SPECVENTURE	MASTERTRONIC





Max Headroom



H-H-HI THERE, my n-n-name is M-m-max and I'm almost here — well my head is — for the first **Max Headroom** show. Or is it a game? I'm not too sure right now.

And here it is. Max Headroom in person, well almost, on tape from Quicksilva. And like that well-loved computerised, digitised, whateverised image on TV, the game is as complicated and crazy as the man itself.

The plot is based on the feature film and follows the adventures of Edison Carter as he tries to regain the missing piece of his memory. The last thing he remembers before he crashed is a sign saying 'Max Headroom'. Just think. If Carter had crashed on a country lane we might be playing Zed Bends.

Anyway, with icon control and much brain power, you play the part of a computer program which helps Theora Jones control Carter in his search for the Max persona and the missing piece of his memory. Get it? No, well neither did I for a while. You can't have goodies without some baddies and Bryce, the mastermind beind Max, and a snotty-nosed computer whizz kid is determined to halt Carter; you have to override his instructions and help Carter. As well as Bryce, two thugs, inappropriately named Brueghel and Mahler stalk you on floors 200 to 208 of the Bigtime TV skyscraper. Their aim: to turn you into a stiff.

The 200th floor of the Bigtime skyscraper is Carter's first destination. Somewhere on floors 200 to 208 are eight pieces of hexadecimal code in four series of two. When these have been found, they will allow entry to the Presidential suite on floor 210. There Carter will find the last piece of code which will let him onto floor 209 where the computer lab and the Max persona is based. At this point he'll be halfway to regaining his memory and you'll be more than halfway to losing your sanity.

Now for the first brain teaser. To reach the Executive level — floors 200-208, you have to take control of the lift from Bryce — and that means playing the Seven Segment Display game on the lift's LCD floor panel. Bryce will try to stop you entering 'E' on the display and will attempt to divert you to any other floor. You must enter and keep the letter there for about ten seconds until the countdown reaches zero.

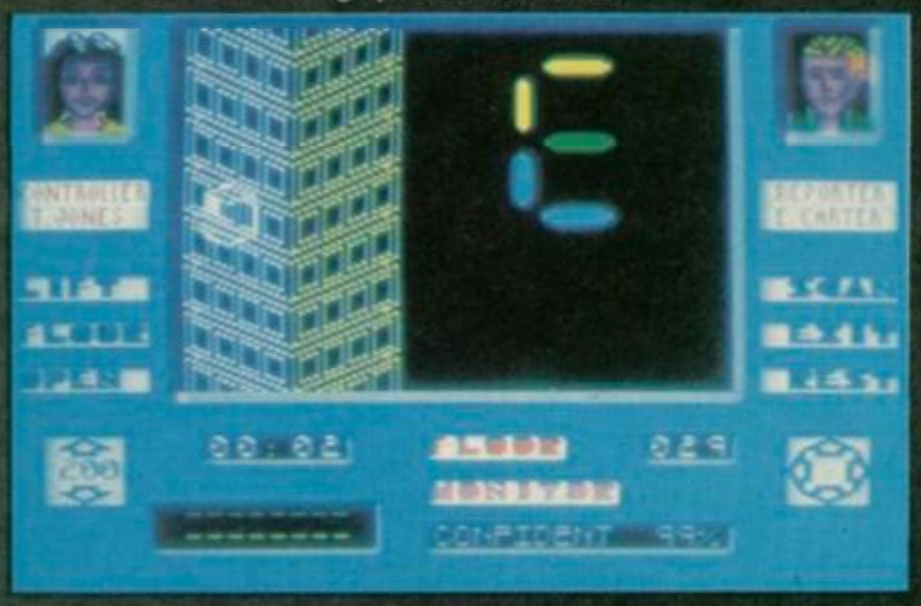
Imagine a digital 8. Now imagine a wire leading from each of the seven segments to a pulse bank beneath it. You must trace each wire to its segment and only send pulses to those segments which, when lit, outline the letter 'E'. Each time you use the lift you must play this game. Sometimes it's a number you must keep or maybe a 'P' for Presidential suite. Whatever, it's almost impossible on the first attempt and you'll have to sit down and learn the combination.

Searching offices for a piece of code

Now that Edison's managed to gain access to a floor he must search each of the 15 to 20 offices for a piece of code. But first you must play the Resistor game to open the office doors. As soon as you enter a floor and access the floor icon, the game begins. The screen changes to a picture of eight lightbulbs. You must be ready as the game starts immediately. Four bulbs light up in a random sequence. Take note of that sequence and repeat if in reverse on your set of four lightbulbs. Believe me, it happens so fast you'll probably miss the first one or two in the sequence. In fact, I made a pretty poor substitute for a computer program.

Now Carter can search the offices and also use them as a place of refuge to avoid the unwelcome attentions of Brueghel and Mahler. The detail in each office is incredible, each room is equipped with desks, chairs, flowers or may be a case of golf clubs on wheels — these finishing touches help to add an aspect of realism to rooms with doors but no walls. Quicksilva has chosen to use a similar

Going up to Executive level



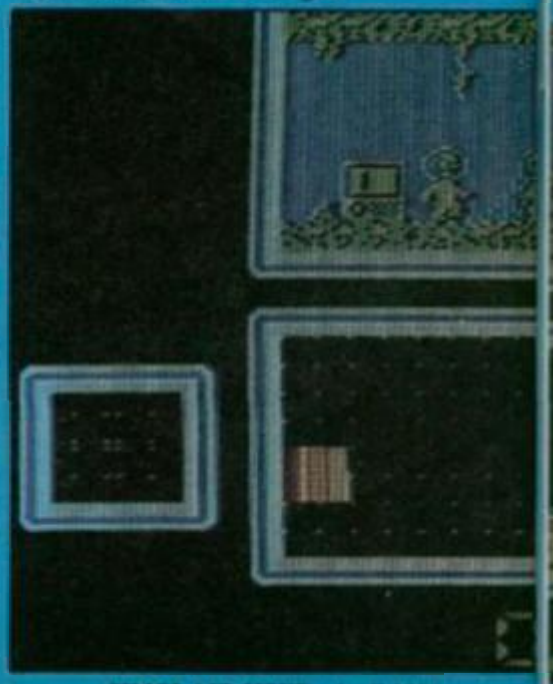
Hocus Focus

WORKING for the *Daily Shocker* is no way for a tender young lad like Jeremy Windburn to learn about photography. After all, the *Shocker* is renowned for its coverge of scandalous exploits.

Go to Hyde Park and take a butchers at the Professor's new invention, they said. So off Jeremy goes only to find the place in chaos. The Prof's in the jug, an insane spaceman is loose and in fighting form, and the invention is in bits. Actually there are lots of inventions — 16 to be precise — and they are all in bits.

With mounting excitement he starts to explore the strange subterranean caverns of the Prof's empire. Walking in front of objects tells him that they are part of the background scenery, walking behind an object tells him that it can be investigated. An icon window to one side of the screen allows you to use the camera and look at objects.

When his sticklike figure disappears behind a large TV set, Jeremy decides to have a look. Two eyes appear in the icon window and a winged



method to that of Ultimate's portrayal of rooms in **Nightshade**. There are lines on the floor denoting the boundaries of each room. It works very well in this case.

The graphics are fast though somewhat limited. Sticklike figures represent Carter and the pursuing thugs though if you scrutinise them carefully you can tell them apart. Carter always carries a camera under one arm, the others carry guns. Actually it's easier to use the move icon and pick out Carter that way. However, the detail and speed of movement more than compensate for the lack of colour and basic matchstick characters.

Once you've found a piece of code, move to the next floor and search that. There are two lift shafts to the building and each must be used alternately, so you'll have to race across the room to use the opposite lift when you want to move up a floor. If you are fast, you will probably lose Brueghel and Mahler for a while though they are persistent and will eventually catch up.

When you're using the lift you see a picture of the skyscraper with the lift moving upwards. The lift changes to opposite sides of the skyscraper depending on which you are using. A nice finishing touch. Also, if you can be bothered to count them you will find that when you press 'E' for floor 200 — if you were able to slow the program — you would find that number of floors.

Once the codes have been found, visit the Presidential suite for the final piece of code and make your way to floor 209 where you'll regain your memory. Now the escape. To get out, you'll have to make your way back to ground level. See what I mean about sanity. Or was it insanity?

Your ultimate goal is the Max Reward screen where you'll come face to head with the man itself. Matt Frewer, the voice behind the mask has recorded a short m-m-monologue to welcome you and that has been digitised and added to the h-h-head.

There are a few icons to access during the game which are fast and easy to use. Those may be changed slightly in the finished version. The Rest icon

Max digitised — on the Commode, unfortunately

is a particularly good idea. You have only one life and a percentage rating giving your health status — confident in the eighties, wounded in the forties and very dodgy when you reach the twenties. Now is the time to access Rest and be repaired. This icon acts as a pause button should you want to escape for a month or three.

Complex or downright impossible? With only six real-time hours to crack Max, it'll be a race in code breaking. A winner perhaps? We'll wait till we receive the final version.

Clare Edgeley

The Resistor game

SOFT PREVIEW 48K

monster flies out of the screen. The film in his camera has been whipped and so has his sword.

The next time Jeremy has his camera at the ready and, peering into a huge jug, he takes a shot. Success. A piece of the invention was there and the photograph appears in a window to the left of the screen.

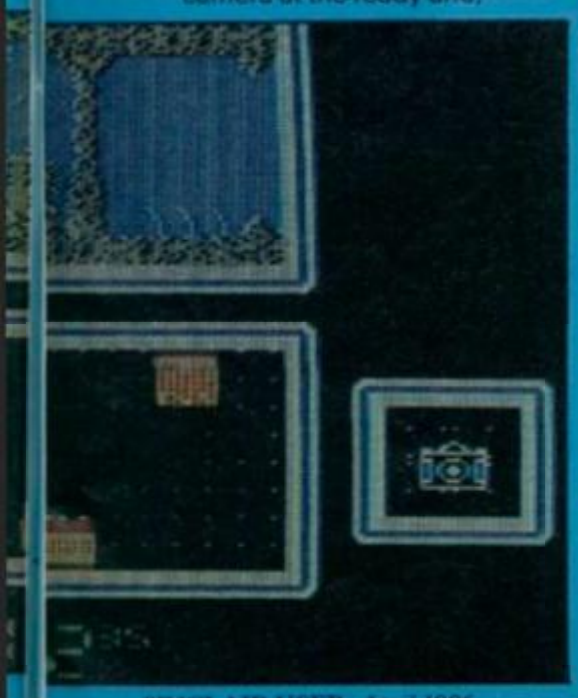
Now comes the tricky part — fitting the segment of picture into the right place on the large window. Move the cursor round the edge of the window, pressing the fire button until the fragment of picture lies in the grid. It's just like a jigsaw — the first piece is in place, you've now got to find and build the remaining 23 pieces.

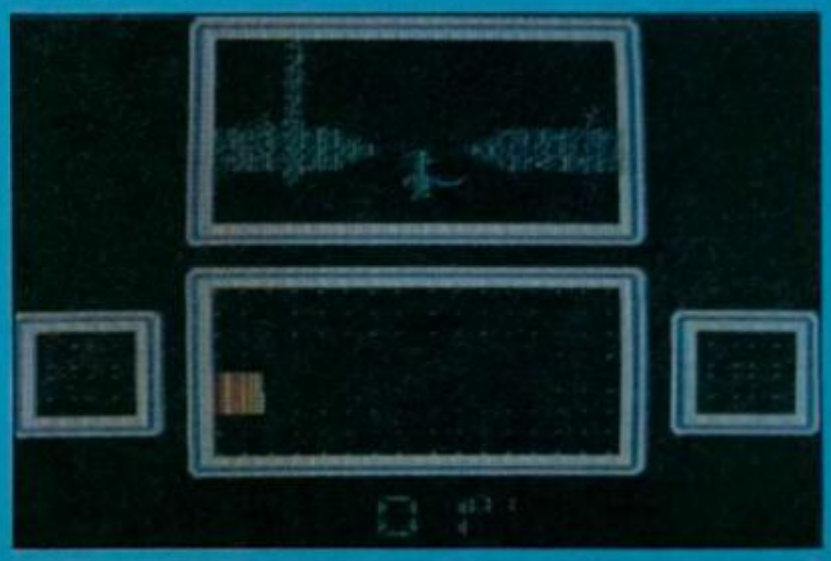
There are a number of levels, through which Jeremy can descend. Climbing back up is a trickier job and he must first find a key. Quicksilva assures us that a key will be found on the deepest and last level.

In the early stages of the game it is not a good idea to take several photographs on one film. Although you've got 16 exposures, should you chance upon a booby-trapped object, the monster will steal the film and you'll have to retrace your steps to recollect those pictures. In the later stages of the game when you are far underground it doesn't make sense to go back to the beginning and change your film so you'll have to take a chance. But take it as a tip — use this method in the beginning and you'll have more success in completing the game.

I saw an extremely early version and additions and changes have yet to be made. However, the basic game remains the same as do the size of the matchstick characters. They are rather dictated by the small playing area which is about one quarter of the screen. Consequently, nasties like the nodding head and manic spaceman, objects like the sword, key, jugs, and fan and Jeremy himself tend to be a little cramped, though they are easily recognisable.

Clare Edgeley





ocean

ULTIMATE
PLAY THE GAME

U.S. GOLD
Al
American Software

They sold a MILLION

FOUR TOP SELLERS IN ONE BIG PACK

EASTER SPECIAL

ALL THESE BLOCKBUSTERS TOGETHER ON ONE **GIANT COMPILATION**

SPECTRUM £9.95
AMSTRAD £9.95

COMMODORE 64 £9.95
DISC £14.95
(COMMODORE and AMSTRAD)

Stocked at Selected Branches of:
W H Smith, Boots, John Menzies
Woolworth, Greens, Laskys and Rumbelows

from...
The Hit SQUAD

MORE FOR LESS

6 CENTRAL STREET, MANCHESTER M2 5NS TELEPHONE: 061-832 6633 TELEX: 66997

Cheetah

Marketing

are proud to announce
the arrival of their
125 Joystick

with this
NEW JOYSTICK
from Cheetah

Compatible with ZX Spectrum,48K,128K,Commodore 64, Vic 20, Amstrad, Atari, MSX, etc.

At only £8.95 the features on the 125 are second to none Besides its unique internal structure, built to withstand immense punishment from even the most vigorous games player, the joystick contains no less than four extremely sensitive fire buttons Two are housed in the handgrip which has been moulded for extra comfort and ease of operation The trigger finger fire button provides ease and comfort for your finger and the top fire button is contoured to fit your thumb for sure fire shooting The base fire buttons are positioned for extra control and two hand firing whether you are right or left handed

A built in auto-fire switch provides continuous shooting at the touch of a fire button

The 125 comes complete with a full 12 months warranty and is available from Boots John Menzies WHSMITH High Street stores and all good computer shops.

ONLY
£8.95

Price include VAT, Postage and Packing. Delivery normally 14 days. Export orders at no extra cost. Dealer enquiries welcome

Send cheque/PO now to:-

Cheetah Marketing Ltd.

1, Willowbrook Science Park, Crickhowell Road, St. Mellons, Cardiff
Telephone: (0222) 777337 Telex: 497455

O'LEVELS

not just revision but also tuition for the Spectrum 48K

Mathematics	8 programs TOTAL 150K	Fractions, square roots, decimals, logarithms, areas, sets, accuracy, bases, interest, volumes, indices, standard form, modulo, number set, pie charts, histograms, simultaneous equations, bar charts, averages, probability, algebraic laws, quadratics, matrices, vectors, transformational geometry, trigonometry, differentiation, integration, factors, angles.
Physics	7 programs TOTAL 140K	Reflection, wavelength and frequency, refraction, lenses, the eye and its defects, diffraction, colour, magnetism, motors, Ohm's law, amps, volts, series, parallel, electronics, heat, gas laws, energy forms, specific heat, kinetic energy, half-lives, atomic structure, radiation, isotopes, Newton's laws.
Electronics	8 programs TOTAL 150K	Energy and its sources, power distribution, e.m.f. p.d., charge, current power, r.m.s. values, resistors, series and parallel, capacitors, time constants, inductors, transformers, resonance, microphones, loudspeakers, heat and light sensitive devices, diodes transistors, logic circuits, multivibrators, meters, CRO, amplifiers, feedback.
Computer Studies	7 programs TOTAL 140K	Data collection, coding, storage, processing, presentation, validation, d.p. systems, privacy, security, hardware, I/O devices, software, low and high level languages, machine-code, assemblers, interpreters, compilers, errors in programming, aids to debugging, microcode, machine organisation.

each subject only £5.00 inc. p/p

GCE TUTORING

quality educational software

HILLSIDE, KIRSTEAD, NORWICH, NORFOLK NR15 1EB

Please send me: .....

.....

.....

My computer is a: .....

I enclose a cheque/PO for £ ..... Made payable to GCE Tutoring

My name and address is: .....

.....

..... SU/4/86

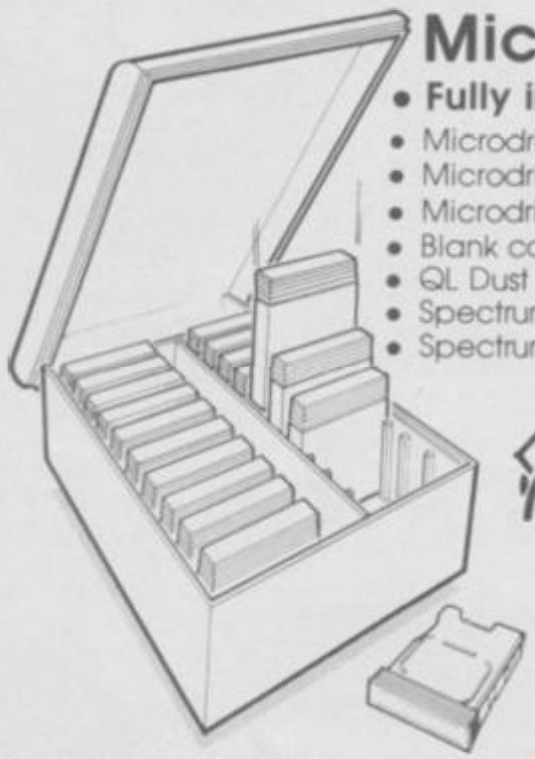
MEGASAVE FANTASTIC SAVINGS

Yie Ar Kung Fu	5.95	Starquake	5.95	V	5.95
Knight Rider	5.95	Dr Who	11.50	Spitfire 40	7.50
Rambo	5.95	Worm in Paradise	7.50	Flintstones	5.95
Street Hawk	5.95	Critical Mass	6.75	Wham Music Box	7.50
Transformers	5.95	Sold A Million	7.50	Super Bowl	7.50
Tapper	5.50	W.S.Basketball	5.95	Zorro	5.95
Spy Hunter	5.50	The Force	7.50	Goonies	5.95
Daley's Supertest	5.85	Beach-Head II	7.50	Finest Hour	7.50
Dun Darach	7.50	Sword & Sorcery	7.50	Nomad	5.95
Spy vs Spy	6.95	Tomahawk	7.50	Battle of Planets	7.50
Dambusters	7.50	Gyro Scope	5.95	Penta Gram	7.50
Pole Position	6.85	Saboteur	6.75	Gunfright	7.50
Glass	5.95	Back to Skool	5.25	Gladiator	6.75
Hyper Sports	5.95	Friday the 13th	6.75	Death Wake	5.95
F.B. Boxing	5.25	Graham Gooch	6.75	Dessert Rats	7.50
NF Open Golf	7.50	Sweevo's World	5.95	McGuigan Boxing	5.95
Exploding Fist	6.95	Never Ending Story	7.50	Lazer Basic	12.50
Costa Capers	5.95	Lord of the Rings	12.50	Ping Pong	5.95
Basketball Int (Elite)	4.95	3 Week Paradise	7.50	I.C.U.P.S.	6.75
Fairlight	7.50	Commando	7.50	Heavy on Magick	7.50
Terrormolinos	5.95	Sir Fred	7.50	Arena	7.50
Now Games	6.75	Enigma Force	7.50	Comic Bakery	5.95
Gerry the Gem	5.95	Tau Ceti	6.75	Winter Games	5.95
Popeye	5.25	Mugsy's Revenge	5.95	Art Studio	12.50
Robin of the Wood	7.50	The Rock 'n' Wrestle	6.75	Twister	5.75
Geoff Capes	5.95	Cyberuim	7.50	Turbo Esprit	6.75
Superman	7.50	FA Cup	5.95	West Bank	5.95
Elite	11.25	Roller Coaster	5.25	Way of the Tiger	7.50
Marsport	7.50	The Young Ones	5.95	Movie	5.95
Blade Runner	6.95	2112 AD	5.95	Hunchback Adv	5.95
Fighting Warrior	5.95	Arc of Yesod	7.50	30 Games	7.50
Shadow Unicorn	11.25	Wartoad	5.95	Back to Future	7.50
Sorderon's Shadow	7.50	Mickie	5.95	Max Headroom	7.50
Bounce	7.50	Now Games 2	6.75	Ghosts & Goblins	5.95
Zoids	5.95	Forbidden Planet	5.95	Bombjack	5.95
Impossible Mission	5.95	Think	5.95	Benny Hill	5.25
Macadam Bumper	5.95	Sky Fox	6.75	Realm of Imposs.	6.75

Postage included UK. Please state which micro. Fast Service.

Send cheque/PO to: MEGASAVE, Dept SU
76 Westbourne Terrace, London W2
Mail Order only

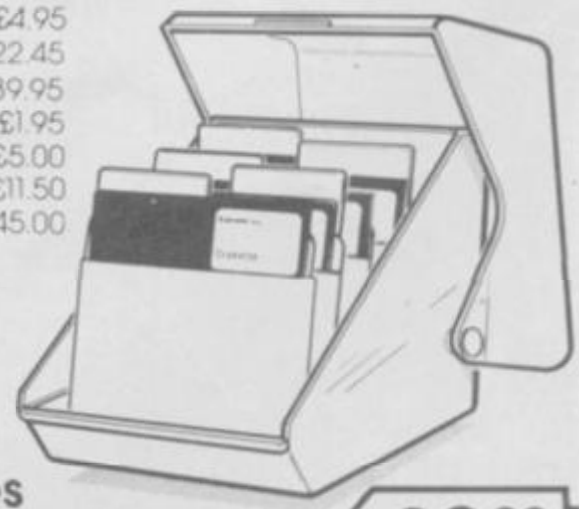
TRANSFORM LTD. Computer Accessories



Microdrive Storage Box

- **Fully interlocking • Holds 20 cartridges + index cards**
- Microdrive Box £4.95
- Microdrive Box + 10 blank cartridges £22.45
- Microdrive Box + 20 blank cartridges £39.95
- Blank cartridges £1.95
- QL Dust Covers £5.00
- Spectrum Monochrome Monitor Connector £11.50
- Spectrum RGB Interface £45.00

£4.95



Disc Storage Boxes

- 3½" Disc Storage Box Holds 25 discs £9.20
- 5¼" Disc Storage Box Holds 50 discs £13.90
- Box of 10 3½" s/s discs £30.00
- Box of 10 5¼" s/s discs £27.60
- Storage Box (holds 30 3½" discs or 20 3" discs) £13.25

£9.20

Available from W.H. Smiths, John Menzies & Spectrum Stores.

TRANSFORM LTD. (Dept. SU) 089 283 4783
Lucks Lane, Paddock Wood, Kent TN12 6QL

VISA

Idiot proof

AFTER READING in *Sinclair User* the letters written by people who have had problems with new Spectrums, I felt I must come to the defence of Sinclair.

A few weeks ago I was in Dixons and couldn't help noticing a woman with her two sons who were complaining about their Spectrum going wrong. The Spectrum, being their third, had the same fault as the other two. Eventually the youngest of the two sons admitted plugging in the joystick interface while the computer was on.

Not long after, the local TV news had a feature on the same topic. A reporter interviewed a boy who said he couldn't get his games to load. Do you think this

Clive: too close to the TV

is surprising, seeing that his computer and data recorder were less than six inches away from the telly. . . ?

In wonder how many other faults have been due to misuse.

Jeff Fuge,
St George, Bristol

● *Clive would certainly agree with you, though perhaps the instructions which come with the machine could be more explicit about possible hazards. Poor loading can be caused by TV magnetic fields, but is more likely to be due to cassettes placed on top of the TV set.*

How to tease a microdrive

I WONDER if your expert has given the correct explanation of Mr Desmares' problem of the "microdrive not present" *Sinclair User*, December 1985 page 47. When I was faced with this problem I found the tape had jammed on the spool and by gently teasing out the tape from the spool a fraction, it ran normally. I also find that after putting in the cartridge, if I push it slightly to the left it runs more smoothly.

Of course, one must not use a metallic object to touch the tape. I found the plastic cap of a Bic ball pen perfect for the job!

Ian Kennedy, Ramotswa, Botswana

Ultimate flatulence

THERE SEEM to be a lot of people who reckon that black coffee and hot beans are the complement to Ultimate's return to excellence — **Gunfright**, — thought I, perusing *SU* (March issue) — but where?

Answer; reach for corresponding *Popular Computing Weekly* and look at the letters. . . Sure enough, a more-than-coincidental similarity between the two letters, the other being featured in PCW's Arcade Avenue.

Well, well, well, what have we here? Methinks there is a bad spud in the sack.

My only criticism of **Nightshade** was that the town was too big, and took too long to hunt through. Coupling a smaller town with a more complex scoring system, leads to faster, more varied gameplay — this is more like it!

Gareth Morgan,
Hook Green, Kent

● *Yes, it's annoying, though hardly surprising, that identical letters be sent to more than one magazine. In this instance the said weakly rag appeared long after our March issue had gone to press. At least we published the Pokes, though.*

Regurgitated garbage

DEAR Bennett of Southend,

Your letter which appeared in *Sinclair User* 48 was exactly the same as your letter which appeared in *Popular Computing Weekly*. Did you send a copy to every computer magazine or just those you thought would be daft enough to print it?

While reading your letter on **Gunfright** I drank plenty of strong black coffee to stop me vomiting the contents of my stomach (baked beans). I can only presume you had either loaded the free tape head cleaner or that you are just an anti-Ultimate kind of person. If this game had been marketed with the Ocean or Beyond logo I am sure you would have raved about it and it would have been given a five star rating from *Sinclair User*.

In this letter you say also that the original **Nightshade** was written by Dare. Don't you mean Rare Ltd?

Thank you Ultimate for another excellent game.

A Fan,
Gosforth,
Newcastle upon Tyne

Pathetic protest

THIS IS in protest at Roger Adlard's letter in the March issue.

Piracy is wrong, everyone knows that.

Gyron, Starion, Elite and **Fairlight** are reasonably good games, yes.

Action Biker is absolutely pathetic.

Your covers are OK.

Ultimate games are EXCELLENT!!!! (not pathetic!)

Does **Action Biker** stand among **Knight Lore, Alien 8, Nightshade** or even **Gunfright**? Huh, ridiculous.

Nick Annies,
Huntingdon, Cambridgeshire

● *Thanks, Nick. I think I know that 'excellent' implies 'not pathetic'. Ultimate games are — or were — pretty good on the whole, but I note that even you refer to "even **Gunfright**", admitting that it's not quite up to the classic Ashby standard. Fingers crossed for **Cyberun**.*

Drake's progress

MY LADS,

The rest of the Galleons with the Treasure from Melbourne are waiting half turbo-loaded at California, for the arrival of those from Silicon Valley. As soon as that takes place, they are to sail for Portovelo to take in the rest of their Cargo, mainly US Gold, with provisions and water for the fantastic Voyage to Britain. They stay at Portovelo a few days only. Such a chance perhaps will never occur again.

The Flying Alas of 36 guns at Terrormolinos, is a new and uncommonly fine Frigate. Built on purpose. And ready for an expedition, as soon as more good hackers are on keyboard.

Captain Francisco Drake, — who was not drowned in the Arabian Nights as reported — commands her. The sooner you are on keyboard the better. None need apply but Popeyes, or stout hands, able to rouse about the Field Pieces and copy an hundred weight of Software without stopping for at least three nights.

To Spanish Seamen.

Francisco Drake.
Terrormolinos, España.

Post-data. © Copyright 1986 Francisco Drake Publicaciones SA

No part of this letter may be copied, reproduced, hired, lent, distributed, stored or modified in any form, in full or in part, without the express written permission of Francisco Drake Publicaciones SA

● *Thundering typhoons, it's the Jolly Roger. . . Avast, pirates! Belay, lubberly scum! Hoist the red pennant and stand by to repel boarders! Avast, sea-lice!. . . Baboons!. . .*

Almost right

ON READING the March issue I noticed Gary Hunter's letter, with marks of perfection for the three most successful software companies. He says: "Any ► 18

17 ◄ comments?"

Yes, I'd like to make a comment: is he any good at maths? Because if you work out each percentage he's got them wrong.

Ultimate should have 97.5 per cent, Beyond 91.1 recurring, and Melbourne House, 88.57.

Except for that major error, I find nothing wrong with your brilliant mag. Please can I have a trainspotter award? Sorry, wrong mag.

Andrew Wright,
Edinburgh

● *No, you can't — even if I did know what one was.*

Looking blue

I APPRECIATE the more comprehensive software reviews, especially of the adventure programs. I'm not so keen on the brightly coloured pages, especially the blues and greens, as it is a struggle to read the print.

Sheila Thomas,
Cambridge

● *Gareth the Mad Celt does tend to get carried away with his designs sometimes, but I mustn't say too much behind his back, or when he comes to layout this letters page he'll cut short my repli*

Jones the Drag in happier days. He's on the left — possibly

The Cult of the Celt

DEAR Gareth Jones,

I am writing to you on behalf of my class, 7B, who are involved in a letter-writing project called Mountain of Friends. We have had replies from many famous people including the Royal Family, Mrs Thatcher, Denis Thatcher, Neil Kinnock, Peter Fraser, Andrew Welsh, Bell's Whisky, Gargoyle Games, Gremlin Graphics, and many others.

I would be grateful if you would be so kind as to write back telling me how did you get your job. Please reply.

Andrew Mitchell,
Class 7B, Kinloch Primary School,
Carnoustie, Angus

● *Yes, a lot of people have wondered that. It's one of the Great Mysteries of our Time.*

But more to the point, who are Peter Fraser and Andrew Welsh? They sound suspiciously like Celts, too. Come to that, who the hell is Gareth Jones? I mean, he's only a designer, he's not an editor, or anyone really famous. Now, if you want me to reply I'll be only to. . . Gareth! What are you doing?

Artistic feat

REGARDING the comments about the "out of proportion" drawing in one of US Gold's advertisements — the reason is obvious when you realise that the artist mis-read the title as **The Leg End of the Amazon Women.**

J Trollope,
Sleaford, Lincs

● *Groan*

The Wild Legs of Wongo

Sticks and stones

LOVED — cough, cough — the way you've changed the design of the mag. The ad for **Legend of the Amazon Women** didn't corrupt me in the least bit (now where's my copy of *Playgirl*?)

Perhaps that dumbo of an editor Scolding thinks we all play **Commando**. In the past there was too little coverage of games. Now there's too much. Please could we see a better balanced mag?

On the subject of games, after comparing **Tomahawk** to **Elite**, Firebird deserve six of the best for the infamous Lenslok instructions. **Elite** nearly put me off buying **Tomahawk**. . . The same goes to Melbourne House over **Lord of the Rings**.

Derek Gabbidon,
Coventry

● *The only reason this one's included is to show you that we don't make the letters up. Dumbo, indeed. Good grief. . .*

Talking sense

I MUST congratulate you on your excellent 'new look' magazine. It would be better, though, if you put maps, like that of **Lord of the Rings**, in the centre pages.

Mark Barnwell,
Torpoint, Cornwall

● *That's more like it — a sensible, rationally-argued, interesting letter, both persuasive and well-written. Collect a gold star. Now, why can't old Gabby from Coventry be like that?*

128 into 48 won't go

I HAVE two points.

Is there going to be an upgrade kit for converting a 48K Spectrum to a 128K? How much will it cost and will it require expert help to fit the new chips?

Secondly, Mrs M White of Newhaven — letters, March — sounds very much like Mrs E A Jones of Yeovil who has made similar comments in the past in *Crash* magazine.

Both I feel sorry for, and hope they have good locks on the children's bedroom doors, as the drawing in question is tame compared to what you see walking down the high street.

K Pridmore,
Anlaby, East Yorkshire

● *I don't think I've seen any walking drawings, in the high street or elsewhere, but I see your point. I also think it's a dreadful ad, though not for the reasons given by Mrs M White.*

As to a 128K upgrade kit — no, there won't be one. The 128 is so radically different from the 48K that such an upgrade would be both impractical and expensive.

► 20

POOLSWINNER

THE ULTIMATE POOLS PREDICTION PROGRAM

Boxed, with detailed instruction booklet

- **MASSIVE DATABASE** Poolswinner is a sophisticated Pools prediction aid. It comes complete with the largest database available – 22000 matches over 10 years. The database updates automatically as results come in.
- **PREDICTS** Not just SCOREDRAWS, but AWAYS, HOMES and NO SCORES.
- **SUCCESSFUL** SELEC guarantee that Poolswinner performs significantly better than chance.
- **ADAPTABLE** Probabilities are given on every fixture – choose as many selections as you need for your bet. The precise prediction formula can be set by the user – you can develop and test your own unique method.
- **SIMPLE DATA ENTRY** All team names are in the program. Simply type in the reference numbers from the screen. Or use FIXGEN to produce fixture list automatically (see below).
- **DISC/MICRODRIVE COMPATIBLE** Tapes supplied with conversion instructions.
- **PRINTER SUPPORT** Full hard copy printout of data if you have a printer.

AVAILABLE FOR Spectrum (48K), Commodore 64, VIC 20 (+16K), AMSTRAD, BBC B, Atari (48K), ZX81 (16K), Dragon, Apple II, ELECTRON, Sinclair QL

PRICE £15.00 (all inclusive)

NOW AVAILABLE

FIXGEN 85/6

AT LAST: No more struggling for hours to get the fixture list into the computer. FIXGEN has been programmed with all English and Scottish fixtures for 1985/6. Simply type in the date, and the full fixture list is generated in seconds. Fully compatible with Poolswinner.

POOLSWINNER with FIXGEN £16.50 (all inclusive)

COURSEWINNER V3

THE PUNTERS COMPUTER PROGRAM

NOT JUST A TIPSTER PROGRAM. Coursewinner V3 can be used by experts and occasional punters alike. You can develop and test your own unique winning system by adjusting the analysis formula, or use the program in simple mode. Coursewinner V3 uses statistical analysis of major factors including past form, speed ratings, course statistics, prize money, weight, going, trainer and jockey form etc, etc. It outputs most likely winners, good long odds bets, forecasts, tricasts etc. The database includes vital course statistics for all British courses. You can update the database – never goes out of date.

AVAILABLE FOR Spectrum (48K), Commodore 64, BBC (B), AMSTRAD, Atari (48K), Apple II, Sinclair QL

PRICE £15.00 (all inclusive) includes Flat AND National Hunt versions.

Send Cheques/POs for return of post service to . . .

VISA phone 24 hrs

selec SOFTWARE

phone 24 hrs

37 COUNCILLOR LANE, CHEADLE, CHESHIRE. ☎ 061-428 7425

(Send for full list of our software)

ARCADE INTERNATIONAL SOFTWARE

BEST DISCOUNTS IN U.K.

SPECTRUM 48K	
BOMBJACK	5.75*
MIKIE	5.75
HYPERSPORTS	5.75
YIE AR KUNGFU	5.75
TWISTER	5.40*
MOVIE	5.75
ELITE	10.50
"V"	5.75*
WINTER GAMES	5.75
SUMMER GAMES II*	5.75
RAMBO	4.99
COMMANDO	5.75
LASER BASIC	10.95
ZOIDS	5.75
LORD OF THE RINGS	11.95
GUNFRIGHT	7.25
SABOTEUR	6.75
COSMIC WARTOAD	5.75
BACK TO SCHOOL	5.20
TOMOHAWK	7.25
IMPMISSION	5.75
SOLD A MILLION	7.25
HALL OF FAME	7.25
TRANSFORMERS	5.75
ROLLER COASTER	5.75
ROCK & WRESTLE	6.75*
SKY FOX	6.95
EXPLODING FIST	6.75
BULLS EYE	6.75
BLOCKBUSTERS	6.75
COUNTDOWN	6.75
TURBO ESPRIT	6.75*
WESTBANK	5.75
B. McGUIGAN	5.75
SHADOWFIRE	4.95
SUPERBOWL	7.25
POLE POSITION	2.95
SUPER TEST	5.25
CYBERUN	7.25*
I.C.K.U.P.S.	6.60*
STREET HAWK*	5.75
KNIGHT RIDER*	5.75
FINEST HOUR	7.25
PENTAGRAM	7.25*
BACK TO THE FUTURE	7.25*
VECTRON	5.75*
MAX HEADROOM*	7.25

GLADIATER	6.75
VIEW TO KILL	3.95
CODE NAME MATT II	3.95
RUNES OF ZENDOS (ADV)	1.99
CHESS	1.99
SPIDERMAN	2.99
MOONSWEEPER	2.99
LAZY JONES	2.99
URBAN UPSTART (ADV)	2.99
WILD WEST	2.99
GREMLINS (ADV)	3.99
ORACLES CAVE (ADV)	1.99
SPORTS PACK	
SNOOKER	
DARTS	
WORLD CUP FOOTBALL	
OLYMPICS	} 5.95
GOLF	
DERBY DAY	
WARMASTER PACK	
DREADNOUGHTS	
PANZER ATTACK	
RED BARRON	
PARAS	

EDUCATION PROGRAMMES

PADDINGTON GARDEN GAME	2.95
PADDINGTON & THE DISAPPEARING INK	2.95
PADDINGTON'S BARTEY VIOLET	2.95
WHATS THE TIME	2.95
KNOW YOUR TABLES	2.95
FIRST NUMBERS	2.95
STARTER PACK 1	
STARTER PACK 2	5.95
GAME WRITERS PACK	
CAR JOURNEY 8+	3.95
SPECIAL AGENT 8+	3.95
PUNTUATION PETE 8+	3.95
BALLOONING 8+	3.95
SUPER WRITER	2.95
NURSERY RHYME ADVENTURE	2.95
RIDDLE OF THE SPHINX 6+	2.95
FIRST MOVE (CHESS) 6+	2.95
SNAFFLE (WORD GAME) 6+	2.95

WORD WIZARD 6+	2.95
COUNT ABOUT 2+	2.99
LUNAR LETTERS 2+	2.99
HOT DOT SPOTTER 2+	2.99
GO MICRO (QUIZ)	2.99
SUM SCRUNCHER 5+	2.99
ROBOT RUNNER 5+	2.99
WILD WORDS 5+	2.99
A.B.C. LIFT OFF 5+	2.99
O LEVEL PHSICS	4.95
GERMAN IS FUN	2.99
O LEVEL CHEMISTRY	4.95
O LEVEL MATHS	4.95
O LEVEL BIOLOGY	4.95
MR T TELLS THE TIME	4.95
LINKWORD SPANISH	3.95
LINKWORD GERMAN	3.95
RAM TURBO	14.95
QUICKSHOT II	6.25
ADVENTURE PACK	
BOOK/CASSETTE DOUBLE PACK	} 5.95
FIRE ON WATER	
FLIGHT FROM THE DARK	
OTHELLO	2.99
REVERSI	2.99
FLAK (US GOLD)	3.95
BEACH HEAD (US GOLD)	4.50
XAVIAR	3.95
VALHALLA	3.50
FLIER FOX	3.95
ATARI PAC MAN	5.25
ATARI GALAXXONS	5.25
HALL OF THINGS (ADV)	2.99
THE ISLAND (ADV)	2.99
DUNGEON MASTER (ADV)	2.99
EMBASSY ASSAULT (ADV)	2.99
SHIP OF DOOM (ADV)	2.99
INCA CURSE (ADV)	2.99
ESPIONAGE ISLAND (ADV)	2.99
ZX81	
BRICK STOP	2.99
BREAK OUT	2.99
DOGEMS	2.99
CASTLE ADVENTURE	2.99

SPECTRUM 128K GAMES IN STOCK NOW

THESE PRICES SHOWN ARE ALSO OUR SHOP PRICES
SHOP IS OPEN MON-SAT IN E. LONDON
*** WHERE STAR IS SHOWN PLEASE PHONE BEFORE ORDERING (ADV) STATES ADVENTURE**
ALL CHEQUES/P. ORDERS MADE PAYABLE TO:
ARCADE INT SOFTWARE (S. USER), UNIT 202, SHOPPING HALL, MYRTLE RD, EAST HAM, LONDON E.6
TEL: 01-471 8900
EUROPE ORDERS ADD £1 (CHEQUES ONLY) PER TAPE ELSEWHERE ADD £2 (CHEQUES ONLY) PER TAPE.
UK ORDERS AS STATED NO EXTRA COST

HIRE SPECTRUM SOFTWARE

- **OVER 500** different titles available for hire including **ARCADE, ADVENTURE, BUSINESS, EDUCATIONAL** etc.
- **OVER 10,000** tapes in stock. All publisher's originals.
- **LOWEST HIRE CHARGES** – hire up to 3 tapes at a time, from only 63p (plus P&P and VAT) for 2 weeks hire.
- **FREE** printed **CATALOGUE**.
- **FREE** newsletter with hints, tips, reviews, etc.
- **TAPES** for sale at **DISCOUNT** prices, (eg **MANIC MINER £2.00**).
- **FAST, FAST SERVICE.** All tapes sent by 1st class postage.
- **HALF-PRICE OFFER – LIFE** membership **ONLY £3.00** (normally £6.00).
- **FREE** first hire tape. (For limited period).
- **EUROPEAN MEMBERS WELCOME**. (Payment in Sterling).

Have you ever been disappointed with software you've purchased? Now you can hire it first. If you like it, buy it at £1.00 off our already discounted prices. If you don't, send it back and it will only cost you the hire fee.
NSL is the best **SPECTRUM** library, with over 8,000 delighted members, the largest range of tapes and controlled by our computer with 22 mb hard disc. **JOIN TODAY**, or, if you don't believe our claims write or 'phone 01-661 9240 for a catalogue, and check our competitors. We're confident you'll join **NSL**.

NATIONAL SOFTWARE LIBRARY

42 Harefield Avenue, Cheam, Surrey SM2 7NE.

I enclose £3.00 for **LIFE MEMBERSHIP**. Please rush my membership kit to me. If, within 28 days, I'm not delighted with your service you'll refund my membership fee.

Name .....

Address .....

SU4

ROMANTIC ROBOT present

56K Spectrum extension? Instant back-up of any program?
Joystick & video interfaces? **YES!** All this & even more with

Nº1 SPECTRUM MULTIPURPOSE INTERFACE

multiface one Version '86 ™

UNPRECEDENTED - UNPARALELLED - UNBEATABLE at £39.95!

- Internal 8K ROM and 8K RAM open new concepts in Spectrum computing: 100% reliable saving of anything, anytime and onto all types of peripherals with extra 8K at user's disposal and with a full peek & poke facility covering the entire 56K. MULTIFACE ONE does not take any part of Spectrum RAM & does not need any additional software. Just push a button to freeze a program, save it and restart from the same point next time. Peek/poke facility and 8K RAM (say with a monitor disassembler) are also ideal for studying, modifying, developing programs.
- Menu-driven with prompts & one-touch commands: 1) Push button 2) Select function: exit/return/save/poke 3) Input name 4) Save to: tape/cartridge/wafer/opus/beta
- Extremely powerful & efficient compressing for fast re-loading & using minimal room on cartridges, tapes, wafers, disks. A 7K screen can be compressed to a few hundred bytes, the whole RAM into a few K (depending on a program).
- Option to save a full 24-line screen only
- Pressing the button & return can restart a "crashed" computer
- Through extension bus for connecting other peripherals
- User friendly, fully error trapped, simply magic
- Users must ensure the copyright laws are not infringed

*** Programs saved with MULTI-FACE 1 Can RUN independently**

Expand your Spectrum to 56K and stretch its capabilities even further with

multiface one ESSENTIAL SPECTRUM COMPANION

TRANS-EXPRESS

The software way of transferring Spectrum software.
4 utilities for m'drive, 2 for wafadrive, 2 for Opus Discovery.
Invaluable for cartridge/disk maintenance & automatic transfers.
Highly professional, user-friendly, versatile and comprehensive.
'An ingenious piece of software.'
★★★★★ Features ★★★★★ Performance PCN

TOP SOFTWARE AT BOTTOM PRICE

Wriggler

'One of the best games for any machine I've seen for very long time.'
'Wriggler is a totally original game.' CRASH SMASH STAR GAME PCN
'Great game, good music, well recommended.' What Micro
'The grahics and sound are excellent and the game is totally addictive.'
10/10 value & playability. 9/10 graphics & sound. C&V Games
'This is a great game.' CAS 'Well worth buying.' ZX C & Crash
'If you've any sense you'll order your copy now.' PCN 'A WINNER' PCN

!NOW FOR AMSTRAD!! SPECTRUM version at Xmas PRICE!

MUSIC TYPEWRITER

Complete Spectrum music system for writing, editing, playing, printing & storing music. Its real notation graphics and ease of use make it an ideal educational tool. Great fun to play with & a lot to offer in serious use (transposing, dot matrix printout etc).
'A very professional piece of programming, easy to use, excellent screen presentation, error trapping & helpful prompts. If you're interested in music and own a computer then get it.' ZX Computing

MIDI compatible with MIDI MUSICIAN package
New overlay for Spectrum + Now at Xmas price!

I enclose a cheque/PO for £..... (UK & Europe orders please add £1 overseas £2)
or debit my [Access] [Visa] No [. . . . .]
Name ..... Card expiry .....
Address .....

Please send me (tick as applicable):			
TRANS-EXPRESS cartridge	£9.95 ☐	MULTIFACE	£39.95 ☐
disk (Opus Discovery)	£9.95 ☐	tape (for m'drive)	£ 7.95 ☐
MUSIC TYPEWRITER	£7.95 ☐	wafer (Rotronics)	£ 9.95 ☐
WRIGGLER Spectrum tape	£4.95 ☐	with supplement	£ 9.95 ☐
WRIGGLER Amstrad tape	£7.95 ☐	or cartridge	£ 6.95 ☐
		or disk version	£ 11.95 ☐

ROMANTIC ROBOT 77 Dyne Road London NW6 7DR ☎ 24 hrs [Access] [Visa] orders 01-625 9463 ☎ SU

The final Blast

I AM retired and there aren't many of my circle of friends who are keen computer types. So my main contact with what is going on in the computer world is via magazines and *Sinclair User* is top of the list.

I'm not great on games but I do enjoy programming. So it was a relief to find that other readers echo my experiences. Firstly that the service from Transform is first-rate. Most things arrive by return post and an Epson printer, which I had expected to take about four weeks, came within ten days.

I too have been caught by the claims of **Blast** and found within a few moments I had half a dozen Basic programs that it won't compile. Letters to them remain unanswered. The security system drives me mad.

The need for compiling Basic is a bit over-stressed and generally isn't really necessary, but if a faster operation is required and machine code isn't favoured then I would suggest that Pascal gives the speed and can be learned almost as easily as Basic. A Pascal compiler is a much better bet for success than **Blast**.

On the plus side I'd like to add OCP's **Finance Manager +80** which I find is superb. To this I'd add **Masterfile, Omnicalc 2** and, of course, **Tasword**.

Stan Wheeler,
Ross-on-Wye,
Herefordshire

WITH REFERENCE to the blasting of **Blast**, — March, *Sinclair User* — I wonder if I've got the same software.

As an 'oldie' (over 30), I was frustrated by my ability, or lack of it, to program only in Basic, and I wrote several rather pedestrian games.

Since I received **Blast**, all has changed. It may not be 40 times faster but even in P-code I've been able to put in frills (extra random losers etc) which couldn't be done using Basic.

Thanks for an excellent mag.

R A Buckley,
Sheffield

OCS SENT ME three different versions of **Blast**, none of which did anything useful at all, except transfer to microdrive. I gave up on them in the end, deciding it would be simpler to learn machine code programming than try to figure out my heavily annotated version of the manual. Twenty-five quid wasted.

Martin Baxter,
Cambridge

● *The controversy over the merits and otherwise of the* ***Blast*** *compiler looked set to rage for some time. Unfortunately, though, Oxford Computer Systems has now gone into receivership and so perhaps we should draw a veil over these sorry proceedings.*

Thanks a lot

THIS IS an effusive fan-letter.

Well, why not? Reviewing software must be a godawful task at times — all the more reason for authors who feel they have been treated generously to write and say "thank you".

So, thank you, Chris Bourne. For what? For the kind words about **Here Be Tygers** on the **Automata 10 Pack Vol. 3**. It really is very gratifying to know that you enjoyed it. Consider yourself number *two* on my Christmas blood-orange list.*

Bob Franklin,
Southsea

* Annie Lennox, since you ask.

● *Damn. Old 'lunchbreaks' Bourne is going to be unbearable after this.*

Chilling tales

AS I WAS studying the shelves of an un-named high street store called Boots, my eyes fell on **Chiller**, by Mastertronic. At £1.99 and with a trendy cover, this seemed to be a hit. I purchased it without further ado.

When the game had loaded some ghastly writing appeared giving me control options. I pressed '2' for Kempston and. . .

Eh?

On closer examination I realised this wasn't **Jet Set Willy** but a similar game, jam-packed with less-than-sprite-quality graphics. After two horrendous games I was howling for my £1.99 back.

And Mastertronic *still* spell cursor as 'curser'.

Peter Cashmore,
Wolverhampton

● *Trendy cover?*

Lonely ROMS

I AM 15 years old and live in Poland. I own a Spectrum and would like to have some penpals who live abroad with whom I can swap tips, programs and so on.

Piotr Bokina,
ul. Falista 16,
81-331 Gdynia,
Poland

I'M a 22-year-old young man, and I own a 48K Spectrum. I'd like to have penfriends to swap letters and programs with. All letters answered.

Yasser Hamed Ibrahim,
PO Box 115 Hadaik Shoubra,
Cairo, Egypt

I'M 28. I would like to swap games, hints, tips with Spectrum owners in Europe, especially the UK.

Carles Ferry,
Clot 25 Atico 1ª
08026 Barcelona, Spain

I OWN A QL and I would like to have an English penpal. I am 15, Icelandic and live in Israel. I am interested in writing programs, playing adventures and exchanging programs.

David Eyjolfsson,
c/o Fsl T Eyjolfsson,
HQ Unifil, Feltpost 104,
Oslo Hovedpostkontor,
A G Udlandet, Norway

ARE THERE any 25 to 30 year old lady computer fans in the Midlands who could teach a single 30 year old man how to use a computer to its best advantage?

A L Yates,
30 Nursery Road,
Leicester LE5 2HQ

I'M a 38 year old male QL owner from Sweden. All letters will be answered — even those from Uncle Clive.

Nils Rydstrom,
Alviksgatan 17
S-59300 Vasteruik, Sweden

I AM 10 years old, and looking for a boy of about the same age. I have a 48K Spectrum and I would like to learn how to program games.

James Wainman,
21 Elizabeth Avenue,
Kirk Sandall,
Doncaster, South Yorks

PENFRIEND wanted in the UK. I am almost 17 years old and I own a 48K Spectrum. My favourite games are **Lords of Midnight**, **Doomdark's Revenge** and **D-Day**. Favourite book, **The Lord of the Rings**. Boys, girls, write to:

Pal A Woje,
Bankgata 33B
8000 Bodo, Norway

I AM English and would like some European penpals. I am 14.

Gary, 38 Hill Rise Road,
Collier Row,
Romford, Essex.

► 22

N.N.N.NINETEEN
SEE ALL THAT'S NEW & EXCITING FOR THE SINCLAIR COMPUTERS AT THE ZX MICROFAIR YOU'LL FIND:
— GAMES
— HARDWARE
— BOOKS
— USER CLUBS
AND EVEN THE 128K SPECTRUM
JOIN US ON THE 10th OF MAY 1986
FROM 10am to 6pm
AT THE HORTICULTURAL HALL
GREYCOAT STREET, LONDON SW1.
ADMISSION: £1.75 (ADULTS)
£1.25 (KIDS UNDER 14 YEARS)
19th
FOR REDUCED PRICE ADVANCED TICKETS SEND THIS AD TO: MIKE JOHNSTON (Organiser) ZX MICROFAIR, 71 PARK LANE, LONDON N17 0HG
£1.25 (ADULTS) £1.00 (KIDS UNDER 14yrs)
PLEASE ENCLOSE S.A.E. & MAKE CHEQUES/P.O. PAYABLE TO ZX MICROFAIR.
ZX MICROFAIR
EXHIBITORS RING 01-801 9172 FOR FURTHER DETAILS

WDSoftware

FOR THE QL:

JOSS — **base £13**

Forget that tedious, time-consuming syntax! Just move the cursor and press SPACE for all your file commands. Cursor keys or you joystick allow you to access microdrives (up to 8) and floppy discs (as many as your interface allows) with up to 150 files on each! Scroll and print directories, COPY, DELETE or PRINT any file, select TV or Monitor mode before LOADing or RUNning any program. You only use the keyboard to set the DATE or label a device when FORMATting. Easy to use with Psion and other software. No silly screw to learn — JOSS will TELL you what it's going to do! Programmer's toolkit and mass copying/printing utilities also supplied. Specify microdrive-only, Microperipheral or CST-compatible disc versions.

RefQL7 — **base £7**

1300 useful QL references with ARCHIVE 2 search/print program. Too long for just one cartridge, so if you have RefQL6 just pay £2 and extra media cost to update.

Mdv Extension Cable — **£5.50**

Eight inches long, allows addition of extra microdrives to your QL. Twist it to put their slots facing you.

FOR THE QL, SPECTRUM, BBC, ELECTRON:

WD Morse Tutor — **base £4**

Written to teach amateurs, now used by professionals too! Absolute beginner, or stretching you speed to 18 wpm, you won't find anything with more helpful features. What else can offer 100 random sentences as well as all the basics? Disc version unsuitable for BBC B+.

FOR THE SPECTRUM:

WorDfinder (microdrive/disc only) — **base £8**

For CHEATING at crosswords. Finds m-as-ng letters, solves anagrams. 13,000 word vocabulary, so too long to share a cartridge. 10-letter word ending in ATE? No problem.

Tradewind — **base £3**

Sailing/trading strategy game with graphic surprises.

Jersey Quest — **base £3**

Text adventure in time. Background of Jersey folklore from Stone Age to Bergerac.

For export:

QL hardware and software from many sources. Ask for list/quotation.

ORDERING + ADD COST OF MEDIUM. POSTAGE £1 OUTSIDE EUROPE.

Mdv or 5.25" floppy = £2 3.5" floppy = £4 **Cassette = £0**

Payment:

By ACCESS/Eurocard/MasterCard or STERLING (UK bank cheques, Eurocheques, drafts or International GIRO) TO:

WDSoftware(SU), Hilltop, St Mary, Jersey, C.I.

Tel: (0534) 81392

SUPER-LEAGUE©

For use on 48K SPECTRUM

Acclaimed the best football simulation game....

"...after using it for several days I had to write and congratulate you on a really excellent program." - A.M. (Middlesex)

"The program is addictive.Last night I spent from 11.00a.m. to 11.30p.m. taking Leeds to win the championship by 1 point." - I.B. (Shropshire)

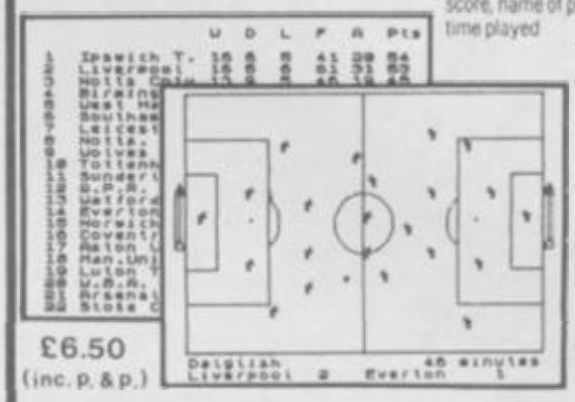
"I must congratulate you on an outstanding game well worth every penny. Thank you." - S.S. (Essex)

"My son and grandson in Australia are delighted...a gem...neither of them have stopped playing it.Thanks for a great game." - N.C. (West Sussex)

"I thought I should write because of your excellent game."-Mr.McD.(W.Mids)

Note the following true-to-life features....

- Full 11-a-side match action
- On-screen commentary showing current score, name of player in possession, time played
- Scale 90-minute game
- Individual player skills
- Full 22-team League
- 42-match season
- League table and results on screen and printer
- Save season to date on tape
- Also form any league of 22 teams and pick your own players!



£6.50 (inc. p. & p.)

direct from CROSS SOFTWARE 72 Swanshope, Burney Drive, Loughton, Essex, IG10 2NB

Also available from selected stores in the London area (including **VIRGIN GAMES CENTRE**, Oxford Street.W.1

THE GREATEST SALE EVER

SOFTWARE

Sinclair Chess	£1.00
Horace Goes Skiing	£1.00
Biorythms	£1.00
VU 3D	£1.00
Pool	£1.25
Mission Impossible	£1.25
Exterminator	£1.25
Spectrum Safari	£1.50
Backgammon	£1.50
Othello	£1.50
3D Dimension Destructors	£1.50
Hall of Things	£1.75
Chequered Flag	£1.75
Bug Blaster	£1.75
Invasion of the Body Snatchas	£1.75
The Island	£1.75
Its the Wooluf	£1.75
Gold Rush	£1.75
Survival	£1.75
German is Fun	£1.95
Armaggedon	£1.95
Conquest	£1.95
Bear George	£1.95
3D Bat Attack	£1.95
Braxx Bluff	£1.95
Chess Tutor (Sinclair)	£1.95
Cattel IQ Test (Sinclair)	£1.95
Magnets (Sci Horizons)	£1.95
Android One	£1.95
Runes of Zendos	£1.95
Xavior	£2.45
Confusion	£2.45
Kokotoniwilf	£2.45
Qt Space Race	£2.45
Software Star	£2.45
The Drive In	£2.45
M/C Coder II	£2.45
Quicksilva Word Processor	£2.45
Lazy Jones	£2.95
Spiderman	£2.95
Backpackers Guide	£2.95
T.T.L.	£2.95
Cyclone	£2.95
Airliner (flight sim)	£2.95
Psytron	£2.95
Deathchase	£2.95
Jasper	£2.95
Eureka	£2.95
Project Future	£2.95
System 1500	£2.95
Star Trader	£2.95
Scrabble	£2.95
Son of Blagger	£2.95
Chukie Egg	£2.95
Chukie Egg II	£3.25
Tripods	£3.45
Valhalla	£3.45
Codename Mat Ii	£3.50
A View to Kill	£3.50
Death Star Interceptor	£3.95
Full Throttle	£3.95
Gremlins	£3.95
Jonah Barringtons	£4.95
Beach Head	£4.95
Lords of Midnight	£4.95
Scope II (Games Des)	£5.95
Pac-man (Atari)	£6.95
Arnhem	£7.75
Battle for Midway	£8.75
Arena	£8.75
Waterloo	£8.75
Desert Rats	£8.75
Their Finest Hour	£8.75
Austeritz	£8.75
The Artist	£11.75

SOFTWARE PACKS
(Please order by reference to contents)

EDUCATIONAL PACKS

Collins Educational by P. K. McBride inc: Spectrum Starter Pack 1, Spectrum Starter Pack 2, Games Writer Pack — £7.95

Collins Young Learners inc: Paddingtons Early Visit, Paddington & The Disappearing Ink, Paddingtons Garden — £6.95

Collins Young Learners inc: What's the Time, Know Your Tables, First Numbers — £6.95

Bill McGibbon Pack inc: Car Journey, Ballooning, Punctuation Pete, Special Agent — £7.95

Collins Educational 2 Titles inc: Super Writer, Nursery Rhyme Adventure — £4.45

Sulis Educational 4 Titles (RRP £40.00): Junior Word Splits (Word Game), Starter Wordsplits (Word Game), The Grammer Tree (Nouns & Adjectives), The Grammer Tree (Verbs & Adverbs) — £6.95

Longman Educational inc: Riddle of the Sphinx (Word Game), Snaffle (Word Game), Word Wizard, First Moves — £6.95

Longman 6-10 Years Pack inc: Sum Scrunches, Robot Runner, Wild Words, A.B.C. Lift Off — £6.95

Longman 4-8 Years Pack inc: Count About, Lunar Letters, Hot Dot Spotter — £5.95

Go Micro inc: Database, Quizes, Sound & Graphics — £2.95

Mr T Pack inc: Mr T's Number Games, Mr T's Shape Games, Mr T's Measuring Games — £7.50

Mr T Pack inc: Mr T's Tells the Time, Mr T's Meets his Match, Mr T's Simple Sums — £7.50

Rose Educational Packs inc: Intermediate English I, Intermediate English II, Intermediate Maths I, Intermediate Maths II — £5.95

Rose Software Pack inc: Young Learner 1 (Abcus, Telling the Time, Snakes Shopping), Young Learner 2 (Angles, Primary Tables, Arithmetic, Deduce Capacity), Young Learner 3 (Add, Multiply, Subtract, Divide) — £5.95

Rose Software Pack 5 Titles inc: Trigonometry, Equations & Inequalities, Geometry, French Vocabulary, Physics — £6.95

GAMES PACKS

Games Pack inc. Freez Bees, Cyber Rats, Brain Damage, Runes of Zendos, The Island, Space Station Zebra — £6.95

Arcade & Adventure Pack inc: Eureka, Psytron, Valhalla — £8.95

Sports Pack inc: Snooker, St Andrews Golf, Derby Day, Olympics, World Cup Football, On the Oche (darts) — £5.95

War Games Pack inc: Panzer Attack, Dreadnoughts, Red Barron, Paras — £5.59

All Imagine titles inc: Zoom, Zip Zap, Jumping Jack, Stonkers, Alchemist, Pedro — £6.95

Action & Adventure inc: 3D Bat Attack, Conquest, Dragonfire, Oracle Cave, Runes of Zendos, Moonsweeper — £6.95

10 Adventure inc: Rifts of Time + The Traveller, Urquahart Castle + Golden Rose, Time Quest + Crystal Quest, Murder Hunt + Last Will & Testament, Hexagonal Museum + A Tangled Tale — £6.95

PERIPHERALS

4 Micro Drive Cart (inc Waller)	£7.50
Currah Speech Synth	£19.95
Single Port Kempston Int	£7.95
DK Tronics Keyboard	£27.95 (p&p £2.00)
Saga Emperor Keyboard	£36.95 (p&p £2.00)
Saga Elite Keyboard	£67.95 (p&p £2.00)
DK Tronics Light Pen	£17.95
Seikosha GP50 Printer	£64.95 (p&p £2.00)
Alphacom 32 Printer	£29.95 (p&p £2.00)
Alphacom Paper 5 Rolls	£8.95
Quickshot II Joysticks	£7.95
Wico Tracker Ball	£14.95
Datex Micro Stick Joystick	£13.95
Spectrum Digital Drum System	£29.95

LOGIC SALES LTD.

MICRO COMPUTERS, SOFTWARE & SUPPLIES

6 Midgate, Peterborough, Cambs. PE1 1TN

Telephone: (0733) 313870

The chips from Brazil

IT WAS with great interest that I read your news item on the Brazilian Spectrum, the TK 90 X, mainly because I reside in Brazil and I am the owner of one.

However, your article states that the TK is completely compatible with the Spectrum. This is not the case — at least on the version sold in Latin America. Microdigital, who make the TK, has substituted the ULA chip for half a dozen anonymous chips which leads to this incompatibility. Most programs in the UK will run on the TK, but others like **Elite** or **Tomahawk** won't. Before your readers rush out to buy a TK, be warned. It's not cheap, costing around £195 at the moment. The I/O ports are in different locations to those of the Spectrum, so normal add-ons won't fit and the general finish and reliability is nowhere near the standard of the Spectrum.

One of the advantages of having a Spectrum lookalike in Brazil is the vast amount of software available, and at very low prices. Most reputable software shops will sell you any of the more popular UK programs for 95 pence, if you deal mail order then you can buy (say) **Saboteur, Beach Head 2** or **Gyroscope** for 60 pence. All of these programs are pirated copies, which have been smuggled into the country.

Mike Davison,
Rio de Janeiro

An offer you can't refuse . . .

Dear sir

How would YOU like a super story on the mr BIG and the mr small of the software pirates?
I can get you an INTERVIEW with aman who with 2 other people runs a bisnees selling COMPUTER tapes.He makes 6o pound a weekend•
I can also get you an interview with some small time pirates to.
I can tell you about the people at the top e.g I had super zaxxon 3 MONTHS before it• release date.
Also about people on the bribe e.g a copper is takeing bribes and telling pirates if there is any danger of being cought.
And about COPYING devices and techniques.
And about how pirates,BIG pirates run,that is if you pay the price we want.
And how big pirates are set up how they get there software and how they get there blank tapes.
If you want this ACE story come to HAVERHILL in SUFFOLK and find the chakstone then find chelmer road drive right to the bottom and then about io.25 on the morning of the 3rd of march you will meet me and i will tell you all that i KNOW.
All this for JUST 5oo pounds cash.

YOURS STEVE

● *Whadda ya mean, JUST £500? Where were you, anyway?*

Seeing stars

AS for R E Cante's letter in the March issue, describing *Sinclair User* turning into a child's comic. . . Well, I think there is nothing wrong with it. I give the magazine four-and-a-half stars, but please put Program Printout back. Before you took it out I would have given you five stars.

Martyn Neads,
Maidstone, Kent

● *Since we reduced the number of programs published in the magazine, we've received few complaints. Most readers prefer our selective, more detailed, approach to listings now. Some even manage to get them to work. . .*

cascade CASSETTE 50

50 COMPUTER GAMES ON ONE CASSETTE

YOURS FOR £9.95

including FREE Watch and Postage

PLUS SPECIAL FREE WATCH OFFER...

CASSETTE 50 IS AVAILABLE ON
BBC A/B ATARI DRAGON ELECTRON
VIC 20 ORIC-1 ZX81 apple Atmos
Spectrum commodore 64 AMSTRAD

FREE
20 KEY, MULTIFUNCTION CALCULATOR WATCH
with every order for a Cassette 50

- Normal 12 and 24 hour time mode
- Calendar mode
- Alarm mode
- Calculator mode

WORTH OVER £10

FREE calculator watch with every Cassette 50
EXPRESS DELIVERY-ORDER NOW!
ONLY £9.95

Name
Address
Post Code
Country SU486

Spectrum 16k/48k or +

'Incredibly frustrating!' - that's the verdict on Cassette-50's FROGGER. Satisfied users tell us it's one of the most challenging you'll find - it's almost as good as the arcade version! CARGO has you trying desperately to complete your helicopter mission under attack. Plus 48 other tactical, logical and adventure games featuring multi-coloured and user-defined graphics, scrolling and full use of the Spectrum sound capabilities.

1. Muncher
2. Ski Jump
3. Basketball
4. Frogger
5. Breakout
6. Crusher
7. Startrek
8. Martian Knockout
9. Boggles
10. Alien Attack
11. Lunar Landing
12. Maze Eater
13. Microtrap
14. Motorway
15. Labyrinth
16. Skittles
17. Race Track
18. Ski Run
19. Tanks
20. Solar Ship
21. Ten Pins
22. Cars
23. Stomper
24. Pinball
25. Cavern
26. Laser
27. Alien
28. Cargo
29. The Race
30. The Skull
31. Orbit
32. Munch
33. Bowls
34. Raiders
35. Field
36. Dragpold
37. Space Search
38. Inferno
39. Nim
40. Voyager
41. Sketch Pad
42. Blitz
43. Fishing Mission
44. Mystical Diamonds
45. Galaxy Defence
46. Cypher
47. Jetmobile
48. Barrel Jump
49. Attacker
50. Space Mission

Names and games may vary for each type of computer.

Postage FREE in U.K. Add £1.00 for overseas orders.
Free watch and tape will be despatched within 28 days
I enclose a cheque/postal order for £ made payable to Cascade Games Ltd.
or through any Post Office by TRANSCASH (Giro No. 655 6655)
For even faster ordering when charging to Access, Barclaycard and Trustcard Visa use our 24 hour service. (0423) 504663.

No.

COMMODORE 64 ☐ ATARI ☐ ORIC 1 ☐ BBC A/B ☐
SPECTRUM ☐ VIC 20 ☐ ZX 81 ☐ APPLE ☐
AMSTRAD ☐ ATMOS ☐ DRAGON ☐ ELECTRON ☐

Cascade Games Ltd., 1-3 Haywra Crescent, Harrogate, North Yorkshire, HG1 5BG, England.
Telephone: (0423) 504663. Registered Number 1755554

GAMES

REALTIME SOFTWARE

LIMITED

STARSTRIKE II

SPECTRUM / AMSTRAD £7.95

Mail order or Access telephone orders **Tel: 0532 458948**

Cheques, P.O.s payable to: Realtime Games Software Ltd., Prospect House, 32 Sovereign Street, Leeds LS1 4BJ

Send for product list for: **Spectrum ★ C64 ★ Amstrad ★ QL**

A

B

C

COMPETITION

Win a Spectrum 128

and 50 copies of Alligata's Showjumping simulation

SHOWJUMPING'S not for cissies.

Fences five foot or more in height, seven or eight feet deep.

Solid wooden blocks and poles to crash into.

And all the time the merciless spotlights and television cameras there to record your every mistake.

Showjumpers are princes in the world of equestrian sports. They strut centre-stage, splendid in their traditional finery. The great events are as much a part of British tradition as the Grand National.

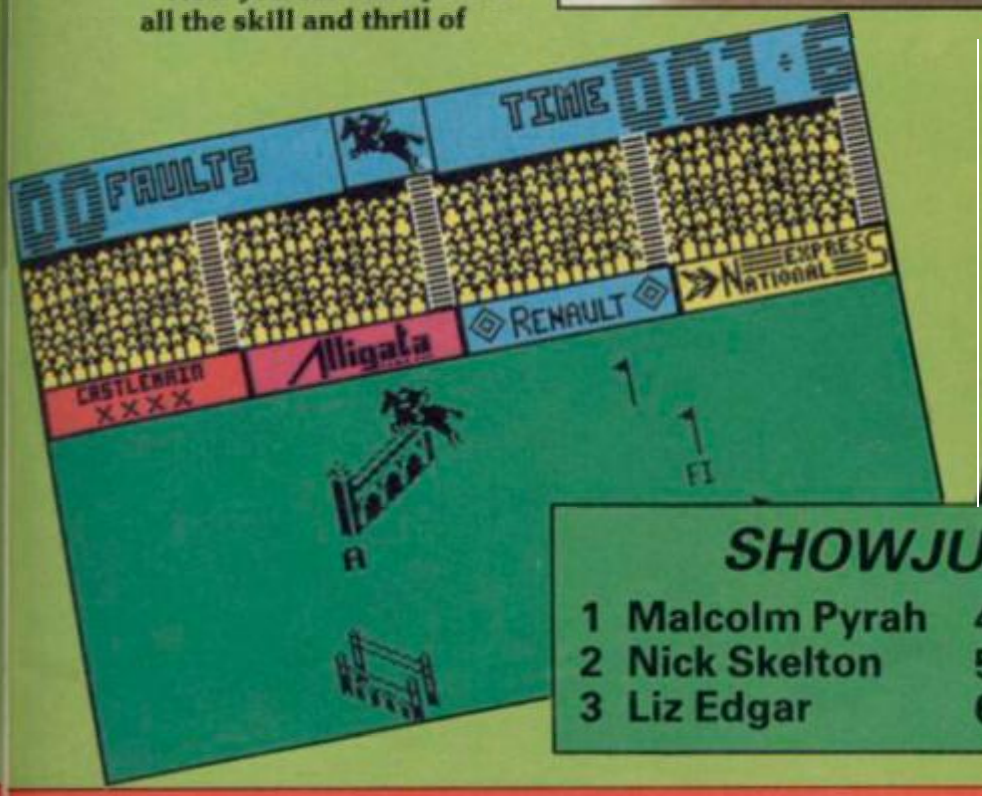
Now you can take part in all the skill and thrill of show-jumping, thanks to Alligata's excellent simulation — a genuine attempt at capturing the precision and strategy of this demanding sport.

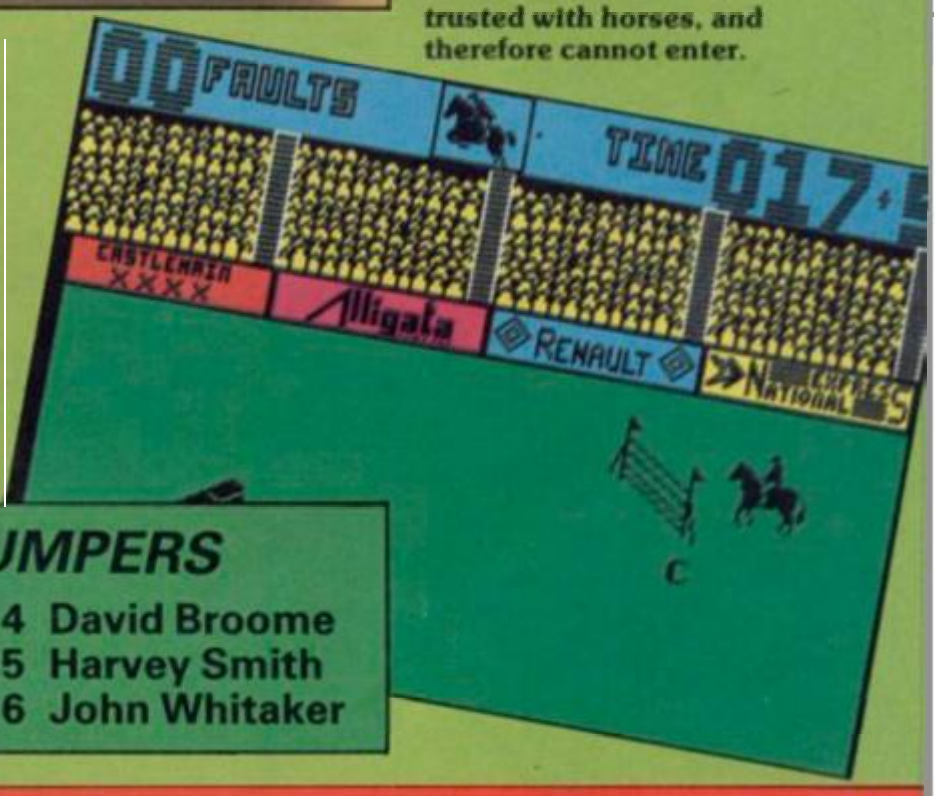
And to go with our competition, we've got a tremendous prize — a brand spanking new Spectrum 128, hot off the production lines of Sinclair Research, as well as a free copy of *Showjumping*.

Fifty runners up will receive the game only, but first you'll have to solve our little puzzle.

There are six photographs of famous showjumpers. All you have to do is match up the names with the faces — if you think Harvey Smith is picture A then write 5A on your solution.

When you have worked out all six, write the answers down on a postcard and send them to us at Showjumping Competition, *Sinclair User*, Priory Court, 30-32 Farringdon Lane, London EC1R 3AU, not later than Friday April 18. Employees of EMAP are not to be trusted with horses, and therefore cannot enter.





SHOWJUMPERS

1 Malcolm Pyrah
2 Nick Skelton
3 Liz Edgar
4 David Broome
5 Harvey Smith
6 John Whitaker

D

E

F

SUPER BOWL

REVEL IN THE THRILLS & SPILLS OF AUTHENTIC AMERICAN FOOTBALL

£9.95
EACH
ALL FORMATS

NFL

ocean

SUPER XX BOWL

SPECTRUM 48K SPECTRUM + COMMODORE 64 AMSTRAD

TM + © 1941 NFLP Inc. All Rights reserved. Ocean Software Limited authorised user. The official NFL authorised computer simulation.

Ocean Software Limited, 6 Central Street, Manchester M2 5NS. Telephone: 061 832 6633. Telex: 669977 Oceans G.

SPECIAL OFFER · SPECIAL OFFER · SPECIAL OFFER

Your chance to join the fastest growing computer network in the UK

VTX 5000† Modem
PLUS
1st Quarter membership to Micronet 800 & Prestel*

SAVE OVER £35

†APPROVED for use with telecommunication systems run by British Telecommunications in accordance with all conditions and instructions for use.
(S/1399/3/D/021865)
*Prestel and the Prestel symbol are Trade marks of British Telecommunications.

ACT NOW. Offer only open whilst stocks last. Simply complete the coupon below and return it to the address shown.

Send to: **Micronet 800, Telemap Ltd, 8 Herbal Hill, London EC1R 5EJ.**

Please rush me my VTX5000 modem and three-month subscription to Micronet 800 and Prestel.
I enclose a cheque/postal order for £49.95

Or please debit my Access/Visa card No:

NAME: .....

ADDRESS: .....

.....

..... POST CODE.....

Make cheques payable to Telemap Ltd. Allow 28 days for delivery. SU 86

ZAPCHAT

Keep those tips, hints and Pokes rolling in!

Pokes

POKES CAN give infinite lives — suspend the killing power of monsters and take you through all the screens of an arcade game — but they must be entered before the program starts to run.

There are usually two main parts in each commercial piece of software — the Basic loader and the machine code. All Pokes must be entered in the Basic loader. Start loading your tape but instead of using the instruction LOAD "" "type MERGE"" ". When the Basic has loaded stop the tape and list the program. It will probably contain a few LOAD "" "or LOAD"" " CODE instructions, then PRINT or RAND USR.

The USR instruction invokes the machine code which starts the game, so any Pokes should be put into a line before it. For instance, if you have a Basic loader such as the one below you would put your Pokes at line 30:

```
10 PRINT "LOADING"
20 BORDER 0: CLS
30 POKE 43154,0: REM
   POKES IN HERE
40 PRINT USR 23446
```

In some cases you will have to replace the whole Basic loader with another filled with Pokes. First Save the new loader onto a separate tape. Then Merge in the original loader and type NEW. Load in your new loader and Run it. Now start the tape again and load the rest of the program.

Last month several readers had problems with **Gunfright**. The Pokes are right but you should replace the original loader with the Basic listing on page 22 of the magazine. The Pokes will give you infinite lives and top your gun up with bullets when you run out.

Saboteur also posed a problem last month. The problem is that the program will crash if you try to get at the loader. The solution is to replace the original Basic loader with the one below:

```
10 CLEAR VAL "25200":
   POKE VAL "23659",0
20 LOAD CODE VAL "16384"
30 LOAD CHR$ 22+CHR$ 0 +
   CHR$ 0 CODE
35 REM put all the POKES
   from last month's issue in
   here
40 POKE 23659,2: LET L=USR
63972
```

3D Starstrike

IN THE November 85 issue there was a tip for **3D Starstrike** from M Sheepwash. It read, "Press key 1 to pause then type in 'I wanna cheat'. This will give you infinite shields. If you get bored, then press key 1 to pause again, then type in 'boring' and it will return to normal."

Yes, it is perfectly true, but it only works if you put a space in between the words.

Paul Batchelor,
Doncaster,
South Yorkshire

PS When you get onto level seven you need to shoot 25 tower tops for the bonus. My high score is 1,308,900 and I got to level 11.

Yie Ar Kung Fu

I WAS amused to read that Kevin Mogridge had a score of 641,000 on **Yie Ar Kung Fu** in the February issue.

I got a score of 4,371,500 on the 250th stage and I gave up with eight lives left and aching fingers.

Did you know that when you get to 2,000,000 your lives remain the same, so it's easy?

Jason Clark,
Crewe,
Cheshire

Specventure

I HAVE completed Mastertronic's brilliant **Specventure** and here are all the codes:

Screen 1:Fast; 2:ta=V; 3:STAR; 4:MAST; 5:QUAE; 6:Z8OA; 7:LDan; 8:ALU#; 9:SPOK; 10:Bugs; 11:LOST; 12:Chr$; 13:????; 14:ULAq; 15:ULAc; 16:TRIM; 17:CROM; 18:SINC; 19:buzz; 20:Wawe; 21:VAGA; 22:conn; 23:LISA; 24:EARc; 25:Leia; 26:Kybr; 27:ramU; 28:Game; 29:difi; 30:PV=K

Darren Heaton,
Malvern,
Worcestershire

West Bank

I WAS awarded the position of Sheriff of Soft City on February 18 at 1.52am. I received my badge after the 18th phase on day two. The game then went on to day three and phase 19.

The game of course is **West Bank** and I have a grand score of 196,730 in 18th position. Has anyone out there got a greater score?

Jason McLoughlin,
Address unknown

Jasper

CAN ANYONE help me get past screen six of **Jasper**? Although I have tried for ages, I cannot get past the snakes.

Jonathan Langham,
Cheltenham,
Gloucestershire

Three Weeks in Paradise

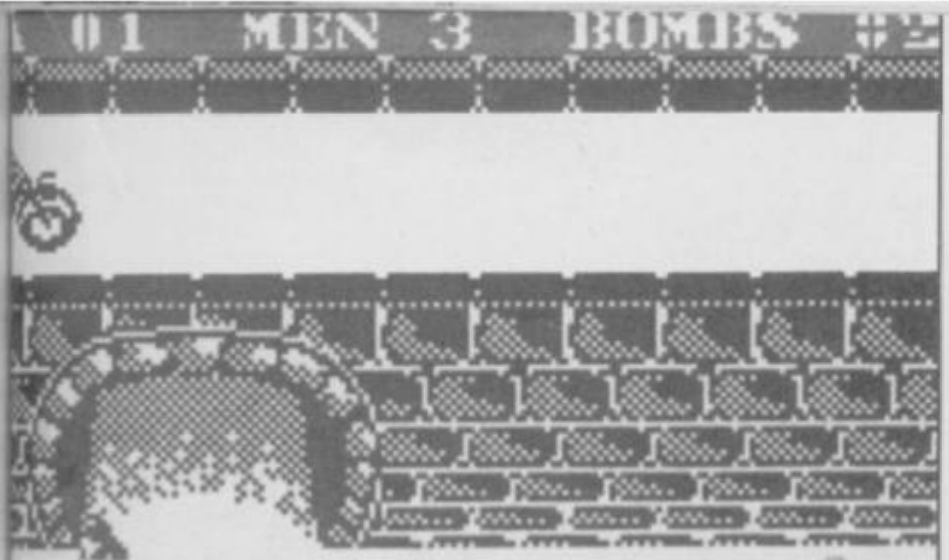
I HAVE completed the 48K version of **Three Weeks In Paradise**. When Wally frees Wilma and Herbert and goes to the beach you see the island with Congratulations flashing above it. You then see a small raft floating away. I scored 100 per cent. Here are some tips:

The Secret Passage: the picture in the screen with the snail and table is a secret passage to the beach.

Freeing Wilma: get the mint — it's behind the trading post — and Wilma's handbag. Go to the crocodile screen. The croc will be sad, go past him. Go to the ice cube and use the mint. Pick up the hole and leave the bag in front of the crocodile. Get the goldfish bowl. Go to the well screen. Go to the far left of the screen and use the hole. Go into the new doorway and get the key. Go under the sea, via the beach, and in to the locker. Get the spinach. Go to the screen with the large bird — next to Wilma's screen and get the egg.

Take the spinach and the egg to the geyser screen. Go to the far right-hand side, just right of the creeper and face left. Jump and run until you are under the geyser. You will be carried up. When you reach the top jump into the nest and exchange the egg for the bow and arrows. Jump down. Go to the Wilma screen and leave the bow and arrows there.

Go to the well screen and jump up till you get to the rope. Press the use key and you should fall down the well. Get the bottle and go to the right-hand side wall and, when there are no bubbles above you, press the use key. You will climb up to the top. Get the corkscrew and go to the crocodile screen. Swap the corkscrew for the bag and walk past the croc, leaving the bottle by the coconut. Do the same for the corkscrew. Make sure you have the corkscrew and the bottle. Use these over the nut. Pick up the bag and go past the croc. Leave the bag there — you won't need it again.



Commando

IN YOUR March issue Johnny Martin claimed that he had reached the tenth sector in **Commando.**

However, I cannot get past the second set of gates on the first sector — there seems to be an invisible wall blocking the way and hundreds of soldiers rush out and shoot me. I've tried shooting back but there are too many. I've tried grenading the wall but the gap created closes up before I can get through. Can anyone help?

Matthew Sellens,
Hastings,
East Sussex

Get the blunt axe and the bottle of oil and go to the screen with the car. Position yourself at the front wheel and press the use key. Take the sharp axe and go to the Wilma screen. Pick up the bow and arrows and face the native. Press the use key, you will fire an arrow which will kill him. Go to the rope tying Wilma and use the axe. Wilma is now free!

Freeing Herbert: get the flip-flops from the trading post and the billy can from the frog screen. Go to the geyser screen and do the same as you did when freeing Wilma, but instead of being sucked up the billy can will be filled in. Go to the screen on the right of the geyser and onto the quicksand, the flip-flops stop you from sinking. Stand in front of the crab and use the billy can. Pick up the crab's pincer and go to the Herbert screen on the right-hand side. Stand over the thorn and use the crab's pincer to pull it out. You can now get through that screen.

Get the deux sticks and the bellows. Go to the anvil screen and stand over the wood pile. Press use to light the fire then press use again to get the ashes. Take the ashes to the screen with the little white native and use them under his feet. The cloud will now start shooting bolts of lightning.

Go to the right of the cloud and blow it along with the bellows until it is over the hut. The hut will disintegrate revealing a shell. Take the shell to the well and go down the well again. Move under the drip of water. This will fill the shell. Take it to the Herbert screen and place it under the pot. Use the shell. Herbert is free!

Now go to the beach and you have finished the game.

Alexander May,
Lewes,
Sussex

TO GAIN infinite lives on **Three Weeks in Paradise** wait until Wally has been knocked down. When the stars start revolving round his head quickly press Symbol Shift, D and P.

Paul Crowley,
Saltash,
Cornwall

Gunfright

HERE IS a Poke for Ultimate's **Gunfright** which stops the bandit drawing during Quickdraw mode.

```
10 FOR a=1 TO
7:LOAD""CODE:NEXT
a:POKE 47919,0:POKE
47920,0: RANDOMIZE USR
23424.
```

A Fan,
Gosforth,
Newcastle Upon Tyne

IS ANYONE having trouble with Ultimate's latest smash **Gunfright?** When you start the game and have to shoot the money, keep your crosshairs at the bottom of the screen. This allows you maximum time to react. To find your horse, you should move west — referring to E Bennett's map March issue — until you come to the corner, then move north a couple of buildings and you should see your horse. When you get to kill Ma Baker and Wild Will your 'decaying carcass' moves to the other side of building, opposite the old place.

The Baddies you have to kill are Buffalo Bill, Sun Dance Kid, Ma Baker, and Wild Will. That is as far as I have got. You will probably have come

across a small boy jumping up and down and pointing in a direction. He is telling you the direction the Outlaw is moving in. Not where he/she is.

When you find the Outlaw shoot him, the screen then changes and you are faced with the baddie. You must shoot him first or it's curtains for you. A good move is to shoot the baddie in the back and then, when you get to shoot him for the second time, he should pause for a second.

Sheriff Julian Marshall,
Abingdon,
Oxon

Rambo

MY FRIEND and I have found a bug in **Rambo.** After you have rescued everyone a blue helicopter chases you. If you shoot at it from your helicopter the game crashes. To complete the game you have to keep going up until you reach some blue hangars. Land and walk inside one of them to finish the game.

Tony Winterbottom,
Terry Murray,
Cornwall

Formula One

IN REPLY to Andrew Charters — March issue on **Formula One** — I had a total of 240 points and a driver's score of 144 and 96, coming first and second in all 16 races. This was on expert not a weedy novice level.

Andrew Wright,
South Queensferry,
Edinburgh

Back to Skool

BACK TO SKOOL has bugs in it. If you go right up to the left wall of the boys' school, face right and then fire the water pistol, the screen will scroll. Press any movement key and the screen will scroll again.

Another bug lurks in the blue room. During a lesson when the teacher is wiping the board, run into the library. Wait for the swot to tell on you. When your name appears in the swot's sentence return to the blue room. The teacher will start wiping the board again. Wait for about five seconds and *walk towards the teacher* — he should now be trying to walk through the wall. No go into the toilets and you will see that the teacher has gone.

I completed the game three times in one go with 3200 lines and a score of 65,530. I then pulled out the plug.

Lloyd Russell,
Bognor Regis,
West Sussex

► 30

ZAPCHAT

Monty on the Run

THIS IS how to complete **Monty on the Run**. Select the following items first: No 2 — jetpack; No 4 — rope; No 12 — passport; No 13 — gas mask; No 16 — bottle of rum.

Collect all the coins you can but leave the ones which are dangerous. Always collect the buns in The House. When you come round to the first screen of the Sewerage Works, walk through the teleport — this can be tricky — then collect the bun in that room. The wall will disappear and you can walk through.

Collect everything you see in this new area. When you come into the room with Help printed on it, go into the teleport and you will find yourself in another room — collect the switch and money.

Make your way back to the Help screen and you'll see that the floor has been filled in — but only if you have collected everything. Walk through the teleporter and you'll find yourself in a room with a rocket pack. Move to the right and you will eventually end up at the Tree Stump. Go to the top and collect the object then descend using the jetpack and move left to 'drive Sir Clive's C5'. You need the object from the Tree Stump to complete the game.

Move through the rooms until you reach the end and drop into Das Boat. Collect all the objects, go to the bottom left-hand side of the boat and collect the key. Now move to the top left-hand side of the boat and you will see a flashing square. Jump onto this to finish the game.

Nick Annies,
Huntingdon,
Cambridgshire

I CLAIM to be the first to complete **Monty on the Run**. I finally finished the game on February 20 with a score of 6650 and three lives remaining. I have also beaten Paul Whitby's score on **Commando** — March issue — with 245,250. Beat that if you can.

Robert Lilley,
Belfast,
Northern Ireland

Winter Games

I HAVE just completed **Winter Games** with the following results:

Ski jumping — 206; hot dogging — 10.00; speed skating — 37.6; figure skating — 2.8; biathlon — 1.25; bobsled — 24.86; free skating — 2.8.

Stephen Owen,
Norwich,
Norfolk

Elite

I HAVE found a bug in Firebird's **Elite**. First get to Elite status and go into galactic hyperspace to galaxy five. You will find yourself around the planet Eduela but there will be nowhere else to hyperspace to. Is this a bug in my program?

Jonathan Pike,
Limpley Stoke,
Avon

MY FRIEND and I bought **Elite** and have reached Elite status.

We have found a ship which is shaped like a space station but doesn't have a hatch. This ship is impregnable to any fire — even an energy bomb. The missiles explode on impact but don't destroy it. After shooting at it for some time it unleashes rapid laser fire which destroys you in two seconds.

Is there a bug in my program? Can anyone help?

James Skudder,
Beckenham, Kent

I HAVE now reached status Deadly in **Elite** with 200,000cr.

In one mission to destroy a Thargoid space station I was helped by the fitting of an ECM system jammer. When I accomplished the mission I was given something called an 'Iritab-II' but I don't know what it is. Can anyone help me?

K Heaton,
Warrington,
Cheshire

Spellbound

MORE CLUES for those **Spellbound** by Mastertronic's magic marvel. . .

The weight you can carry is equivalent to your strength — if your strength is 95 per cent you can carry some very heavy objects; if it is ten per cent you cannot carry much. As David Moore of Malvern — March issue — said, you give the bottle to Florin (not Flavin!!) to retain strength, what he did not say is that it can be repeated time and time again.

Characters should be fed every five or six hours and kept happy hourly. Orik can be summoned after four hours into the game — game time. There is a large number of clues to be collected from Banshee, who is released from the glowing bottle. A few are listed:

A distant cousin of mine is pretending to be a pool of liquid. A spell could be of use to both of you.

The proof is in the bottle. Lend it to Florin and gain strength by your actions when you claim it back.

They that would be last shall be first and the first shall be last.

Bring back lost in space!

Red herrings are not always fish!

Candle light, Candle bright, Four leaf clover, From the night, Without the lot, Your chance is slight.

Which brings me to the question, how do you light that darned candle? How can you read it?

Also, if those clues do not confuse you the crystal ball in the lift is very helpful, showing messages such as: A spirit appears and tells you that Samsun will be of much use to you if you give him the javelin. The mist clears to show Thor helping you in the lift.
In the midst of the mist you see a tarot card which means death and destruction, or the demolishing of hopes and pride.

You can see a wall come crashing to the ground. There is a noise and the image of an old religious book written in Hebrew.

And. . . the magic talisman will be of much use to you if you can mend it — or get somebody else to mend it. To cast the spell FUMATICUS PROTECTIUM you will require two very smelly objects.

Also, the mirror — odd ball — is a good guide to your strength and the items you are carrying. Miolnir — belonging to Elrand on the second floor — enables you to throw light things at people. Elf horn — belonging to Samsun on the second floor — will summon anyone awake and who wants to be summoned.

Wand of Command allows you to command any character who wishes to be commanded.

Does anyone know how to pass those walls on the second and fourth floors, go to the ground floor and basement, or enter the room with deadly Knightshade on the first floor?

All in all, **Spellbound** deserves its Classic award.

James Stallwood,
Canvey Island,
Essex

CAN ANYONE help with the answer to the riddle which gets the lift working in Mastertronic's **Spellbound?** I have only managed to get into the lift room.

If you bring the lift down to the first floor and go into the library, you will find it has changed to the toadstool room. The next room on the right kills you with the deadly Knightshade gas.

Neil Porter,
Ipswich,
Suffolk

I HAVE found a bug in **Spellbound**. Firstly go to the roof and collect the wand. Now command any character to 'be happy' and then command them to 'wake up'. This will mess up the window containing the finger when selecting, and will leave pixels lying about on the playing screen.

F Squire,
Willand,
Devon

EAST

SAI COMBAT

Set against a series of subtle backgrounds, Sai Combat has 8 skill levels and can be played by one or two players, with a choice of 16 moves. The combatant sprites are large and easy to control via keyboard or joystick.

Spectrum 48K £6.95

OR WEST

Spitfire 40

A Crash! Smash

Rev up your engine and take to the skies to save your country. Hunt down the enemy and build up your log of kills as you rise through the ranks to the elite of the RAF.

Spectrum 48K £9.95
Amstrad CPC £9.95
Commodore 64 £9.95 tape, £12.95 disk

PLUS
New expanded 128K Spectrum version with a full mission mode, improved sound, and more ground detail. Still only £9.95!

ONLY THE BEST

FROM

MIRRORSOFT

Purnell Book Centre, Paulton, Bristol BS18 5LQ

For Your SPECIAL OFFERS SPECTRUM/PLUS/128K

QuickShot II

INCLUDING INTERFACE
PLUGS STRAIGHT INTO SPECTRUM/PLUS

ONLY **£15.99** POST FREE

- TOP + TRIGGER FIRE BUTTON
- AUTO FIRE MODE
- KEMPSTON COMPATIBLE
- STABILIZING SUCTION CUPS
- SPECTRUM OR PLUS • UNBEATABLE OFFER

SEND FOR INSTANT DESPATCH

PRICE BREAKTHROUGH

SWITCHABLE JOYSTICK INTERFACE

ONLY **£10.99** POST FREE

- ALL THREE SYSTEMS AT THE FLICK OF A SWITCH
- 'KEMPSTON'—'CURSOR'—'INTERFACE II'
- ACCEPTS ANY 9 PIN JOYSTICK—INCLUDING RAPID FIRE MODELS • SPECIAL OFFER!!

Buy with QUICKSHOT II complete for only **£17.99** *SEND NOW*

MULTI-FEATURE INTERFACE
SPEECH SYNTHESIZER & JOYSTICK INTERFACE

PLUS ON SCREEN SOUND

ONLY **£17.99** *POST FREE*

• Speech Synthesizer with unlimited vocabulary • Joystick Interface (Kempston System) • Boosts the sound from games through TV speaker!! ALL IN ONE UNIT AVAILABLE NOW!!

ROBOTICS & MODEL CONTROL
Made easy on your Spectrum

£29.99 POST FREE

- 4 independently controllable outputs for robotics, motors, lights, etc.
- 8 independent inputs for sensing etc.
- This is the unit that the "Lego" publication "Make and Program your own Robots" was based on • Complete with all cables • Easy to use.

Now you can create Superb Graphics easily with

the New **Lightwriter**

ONLY **£16.99** *POST FREE*

Lightpen comes complete with Interface & Software

• Just plug in the Datel Lightwriter and draw circles, squares, rectangles, make superb hand drawings, paint, fill, erase, choose inks, paper, colours. • Save your results into memory (48K) and use in animation or save onto tape to use in your own games. • All functions selected from screen menu with the lightpen. • Unbeatable value. • Nothing more to buy.

SEND NOW AVAILABLE FOR IMMEDIATE DELIVERY

Digital Sound Sampling Technology. NOW Available on your Spectrum

Complete unit and Software Package

£49.99 *POST FREE*

• Digital Sound Sampling has only previously been available for large monies and costing at least 10 times the amount • The sound Sampler allows you to record "Digitally" any sound into memory and instantly replay it at any pitch, forwards, backwards, ascending scale, compressed, expanded, with echo, endless looped, etc. • Supplied complete with Software package to facilitate the above operations, plus on screen "Voice Proxy" - Frequency Plotting • With on screen keyboard - drum kit a whole custom symphony could be produced from a single Sample Sound • This is a professional unit featuring 8 Bit D to ADC converters as used in Digital equipment now sweeping the music world. • Although the unit is not a toy, giving truly astounding results for the musically inclined, we have incorporated a games interface to allow you to use Sound Sampling in your own games etc., so the Sound Sampler would be of interest to everyone.

HOW ABOUT WITH SOUND?

UNBEATABLE OFFERS!!

POST FREE WHILE STOCKS LAST

Games Ace features:
KEMPSTON COMPATIBLE • JOYSTICK INTERFACE ACCEPTS ANY 9 PIN JOYSTICK INCLUDING RAPID FIRE MODELS
PLUS DELIVERS THE SOUND FROM YOUR GAMES THROUGH TV SPEAKER. (Fully controllable)
ONLY £10.99 or complete with Quick Shot II only £17.99

Turbo Ace features:
ALL THREE SYSTEMS AT THE FLICK OF A SWITCH
KEMPSTON • CURSOR • INTERFACE II • ACCEPTS ANY 9 PIN JOYSTICK • INCLUDING RAPID FIRE MODELS • 'ON SCREEN SOUND' AS 'GAMES ACE'
ONLY £15.99 or complete with Quick Shot II only £22.99

GUARANTEED SAME DAY DESPATCH ON ALL ORDERS
TRADE ENQUIRIES WELCOME

24 HR CREDIT CARD LINE

DATEL ELECTRONICS

UNIT 8, FENTON INDUSTRIAL ESTATE, DEWSBURY ROAD, FENTON, STOKE-ON-TRENT
TEL: 0782 273815

COMPLETE BOOK/SOFTWARE COURSES

A FULL ASSEMBLER/ DISASSEMBLER PLUS A FULL BEGINNERS COURSE

This step-by-step text introduces the complete beginner to Z80 programming. No prior knowledge is assumed and the aim throughout the book is to ensure that the beginner succeeds. By the end of the book every Z80 class of instruction has been explained in detail. Numerous examples illustrate the points while exercises (along with solutions) test the understanding.

The Software
The tape provided with the course contains a complete Z80 assembler supporting symbolic labels, for the 16k Spectrum, the 48k Spectrum and the Spectrum +. Also included is a machine-code monitor.

£12.50

STEP BY STEP ON YOUR COMPUTER

This step-by-step course takes the absolute beginner through BASIC while developing a series of projects - games and utilities - that utilise the vocabulary in an increasingly sophisticated way. From a simple number-guessing game to a full Adventure game, programs are developed to illustrate sound, graphics, timing and structure to create a firm understanding of the BASIC language. Each chapter is equipped with its exercises (solutions too!) to monitor your programs.

The Software
All the software developed in the book is provided on the tape.

£10.50

THE YOUNGER SET

Suitable from 9 years upwards

Unit 1: **FIRST STEPS IN BASIC** **£2.95**
Starting with the first things every programmer needs to know, you will learn to issue commands to the computer, as well as writing and running programs. By the end of the unit you'll be able to make your computer perform useful and interesting tasks.

Unit 2: **EXPLORING BASIC** **£2.95**
This unit teaches you the most important concepts of BASIC: numeric variables, string variables, FOR...NEXT and IF...THEN statements, and much more. You'll create a digital computer clock, and interesting graphics programs including animation.

Unit 3: **COMPUTER GAMES** **£2.95**
In this unit you will learn to develop various computer video games. As you progress through the unit, new programming concepts such as random numbers will be introduced. By the end you'll have considerable programming skills.

Unit 4: **CREATIVE GRAPHICS** **£3.95**
This unit will enable you to continue to expand your programming skills. You'll move step by step through essential mathematical concepts, like sine and cosine, for use in creative amazing on-screen graphics.

GLENTOP

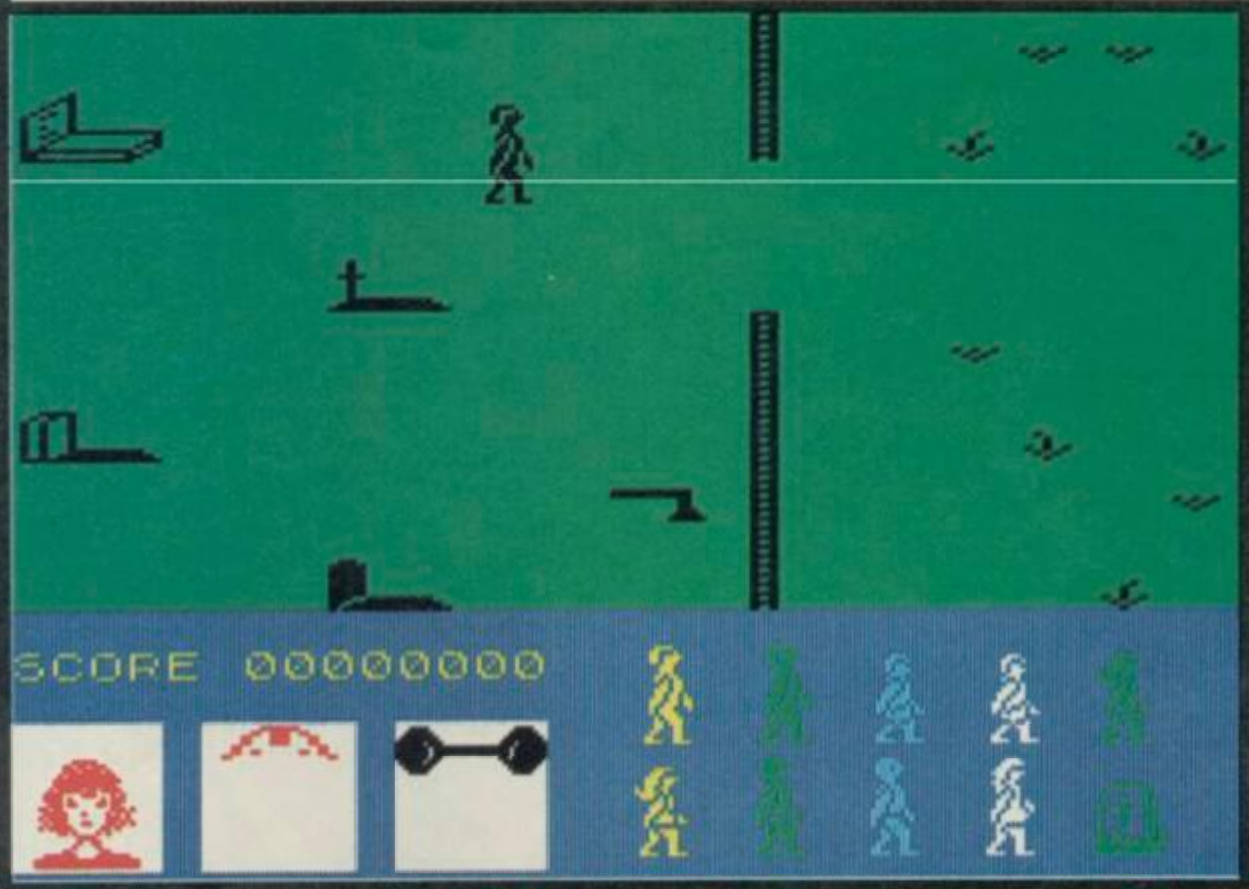
PUBLISHERS ☐ LIMITED

STANDFAST HOUSE, BATH PLACE, HIGH STREET, BARNET, HERTS EN5 5XE TELEPHONE: 01-441 4130 TELEX: 22828

STAR RATINGS

Based on value for money, programming, graphics, speed and addictive qualities

★★★★★	Solid gold. Buy it
★★★★	Well worth the folding stuff
★★★	Pretty average. Buy if desperate
★★	Very poor. Probably over-priced too
★	A total rip-off. Complain loudly



FRIDAY THE 13TH

SOFT 2 WARE

SANCTUARY, sanctuary from this awful game. Jason Voorhees has come back to reclaim his hockey mask and has an arsenal of weapons which seem to have come from Domark's only good product on the market, Gladiator.

Jason has just done a *Rambo* leap out of the lake at Crystal Lake Holiday Camp when you arrive. In order to give him the death he deserves, and splatter fans await with hot, sticky, lolling tongues, you must herd your friends to a place of sanctuary, get one of the weapons Jason has so kindly left around and kill him.

Before you get nine of the ten teenagers to safety you must create a sanctuary in the barn, church or library. Collect the Sanctuary Cross from the graveyard — at a holiday camp, you've gotta be kidding — and stand it in one of those buildings.

To warn the kids about Jason just pass over them. They will immediately go to the Sanctuary but — bites knuckles in terror — they will soon get bored and wander into the open where they are easy prey for the masked moron.

While all this is going on you should have picked up one of the many weapons Jason has discarded — (he's so careless). They include a chain saw, arrows, tridents, machette, short sword and what looks like a rolling pin.

The problem with holding and using weapons is that you can only walk right, down and upwards. To walk left you move backwards continually flashing your weapon, which slows down movement. All Jason has to do is run to the left of the screen and you've lost him.

Not to worry, you can amass thousands of points by using your charms on corpses. You score points by brushing up against people and sending them back to Sanctuary. You can do the same thing with corpses which, like weapons, lie around in all sorts of strange places. Just settle yourself over a corpse and watch the points clock up.

Your ability to fight Jason is shown by two icons at the bottom of the screen. The first shows your face and, as you get more scared by Jason's activities, your hair begins to stand on end.

Your strength rating is shown as a bar bell which starts at the top of the window and journeys down as Jason claims more victims. When it gets to the bottom of the screen, or your hair is at its uppermost, your time is up and you get the axe — that's another of the ten weapons in the game.

Domark seems to have turned the appalling graphics into a feature of the game. All the characters look the same and when they turn to face you they all look as if they're wearing hockey masks.

Sometimes characters get caught up in the nooks and crannies of the scenery. They struggle on matchstick legs to get through walls, fences and even trees and hay bales.

The first signs of madness appear in a little window at the bottom of the screen in the form of a hockey mask.

Yes, you too can be as wacky as Jason — who, I've just discovered, plays a mean game of baseball with people's heads. As the first part of the game progresses and the body count gets higher you slowly become insane and incapable of killing Jason. My suggestion, to stave off a visit to the funny farm, is to rip the tape from your data recorder and throw it in the nearest bin.

Before you do that, though, listen to the competition recorded after the game — it'll crack you up. There are ten horror sounds, all of which sound like the Domark programmers having their breakfast. I have some ideas as to what the sounds may be. There's the hiss of fried larynxs, the split of brussel heads and the gentle scraping of burnt fingers.

If that wasn't enough to have you in fits of vomit then suck on the blood capsules you get in the packaging. Domark says they contain red coloured sugar water. They certainly provide the highlight of a rather dim package and, unlike the game, they're frothy man.

Jason Gilbert

Perpetrator Domark
Blood money £9.95
Brains 48K
Hatchets Kempston, Sinclair
★★

firebird

PRESENTS

EMPIRE!

Brave dozens of missions, become the greatest space pilot of all time and win an Empire. Now Firebird, publishers of the UKs most exciting software, offer you the chance to become one of those exalted space-adventurers who risked all in the name of conquest.

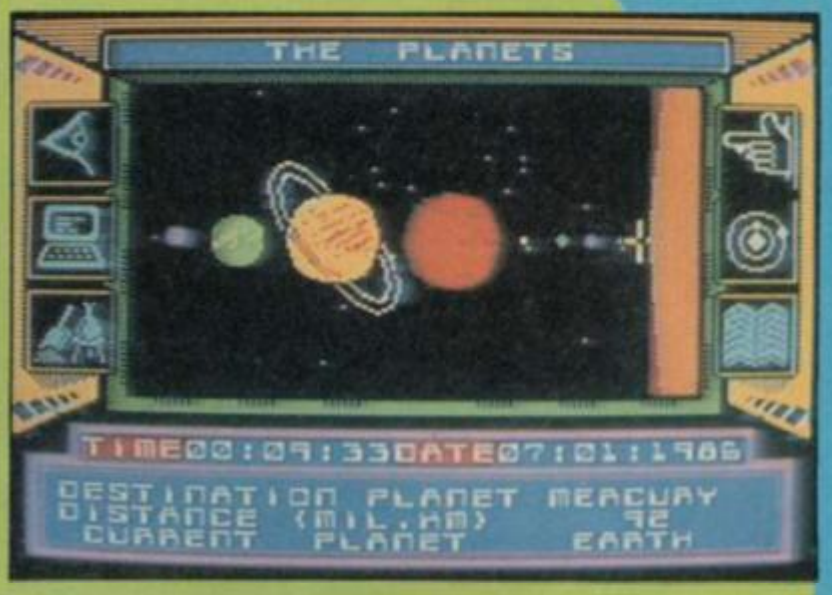
Available now in Firebird Gold for Spectrum 48K and Commodore 64, and available soon for Amstrad. All at £9.95.

GOLD EDITION

MAIL ORDER
Please state name of game, machine, cassette or disk and quantity required. Enclosed crossed cheque/PO made payable to FIREBIRD SOFTWARE. All offers are subject to availability. Orders are despatched promptly. All prices inclusive of VAT and postage.
MAIL ORDER: AUNTIE KAY, *FREEPOST FIREBIRD, WELLINGTON HOUSE, UPPER ST. MARTIN'S LANE, LONDON WC2H 9DL. *No stamp required.

SOFT PREVIEW 48K

The Planets



FORGET THE arms race, environmental pollution, inner-city deprivation or global war. Martech has dreamed up a real dilly of a future for the human race. Life is coming to an end and it's only 2007. A new ice age dawns, and it makes last month's freeze look like a holiday in Tenerife. In the middle of all the chaos an alien capsule arrives on Earth . . . with a map of the solar system and the position of eight other capsules, one for each planet.

The Planets is a planetary quest to solve the riddle of the alien capsules before time runs out on Earth — maybe the secret will hold a last, desperate hope for humanity. And, as ever, a brave space pilot is needed to go out and look for the remaining capsules. You, buster. You.

It's a massive game, of which I've only seen a limited preview — but that's enough in itself to know that the final version is likely to be stunning. For a start, there are two cassettes. The first contains the control program for travelling around the solar system, and the second is an alien arcade game which completely fills up the 48K memory all by itself, according to Martech.

We have no details yet about the arcade game, but it will be linked to the solar system and, as you play, will provide clues to the main game. Likewise, the main game gives clues to winning the arcade game. That is probably wise — at the beginning Martech won't even tell you which keys to use.

The second tape contains details about planets, loaded in two at a time. An icon system allows you to select various screens of information about your current planet — analysis of mineral samples, atmosphere, comparative data with earth on the gravitational field, relative motion, and all sorts of other details. These have not yet been implemented, but are being worked on in conjunction with Heather Couper, President of the British Astronomical Association, and will even include details from the recent Voyager Two probe of Uranus.

You can select which planet you wish to visit and then warp there. On arrival, another icon provides a gridded map of the planetary surface. Somewhere here is the capsule, and you must land to discover it. That sequence is very much like the old Lunar Lander games — you must use your fuel as economically as possible to brake as you descend so as to reach the surface at an appropriately low velocity.

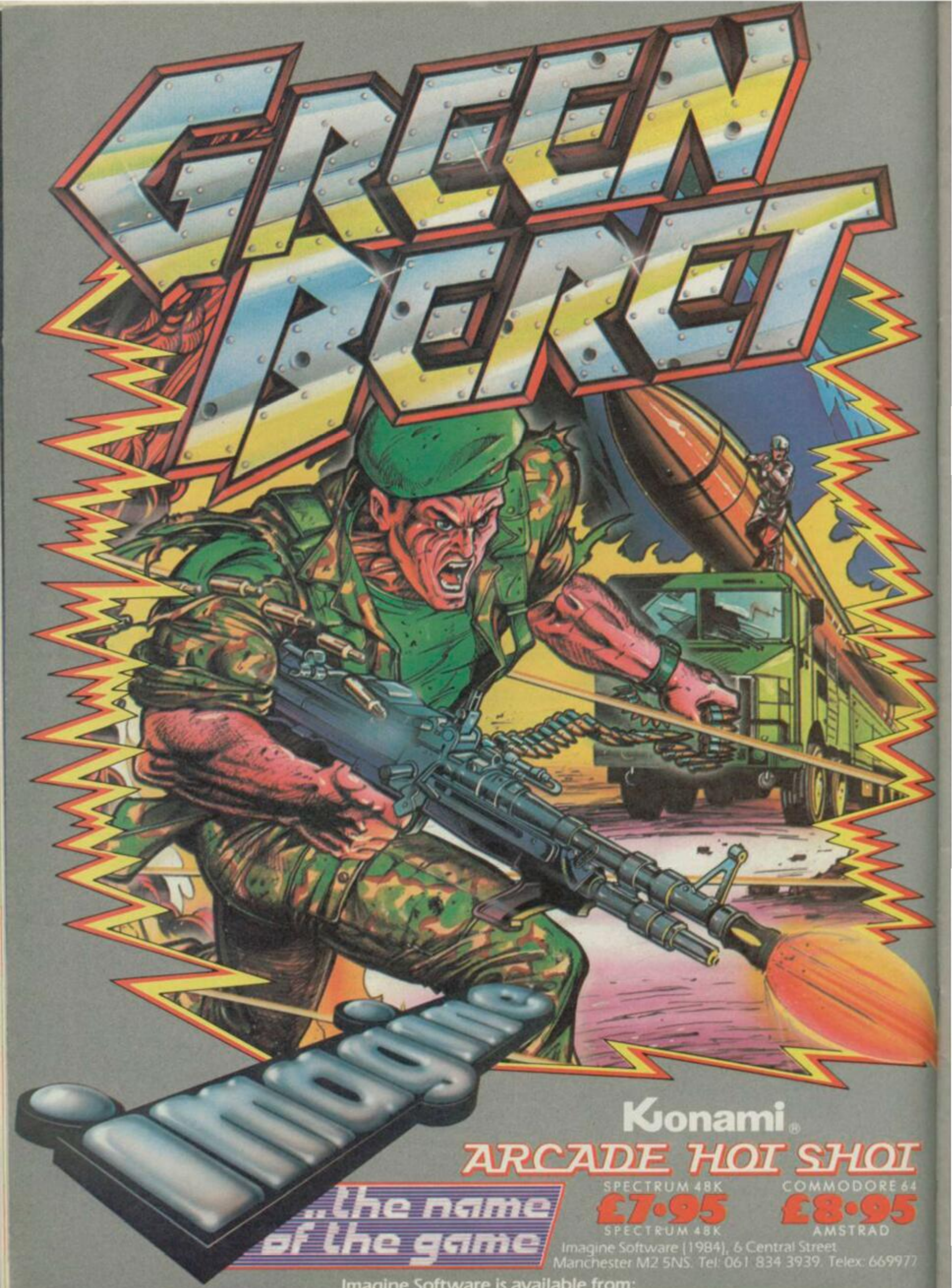
Planets with low gravity will be easier to land on than giants such as Jupiter, where you'll have only just enough fuel to land and then get back to the mothership. On returning, there's going to be a docking sequence, again requiring arcade skills.

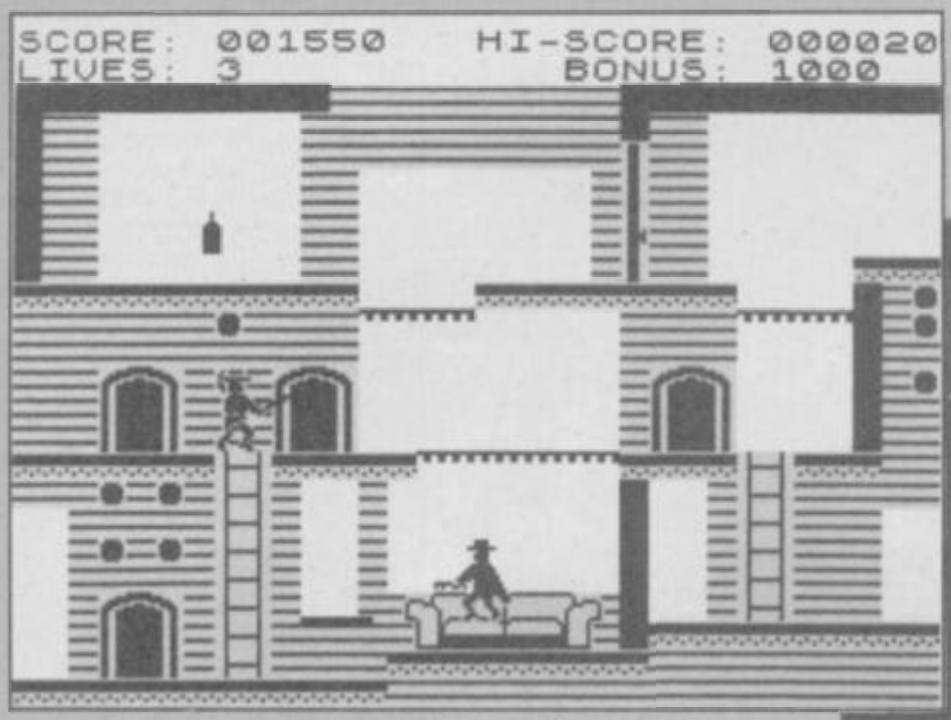
The capsules themselves provide cryptic information which, when pieced together, provide the complete solution to the mystery. But in order to decode them you will probably have to take into account all sorts of astronomical information about the planets themselves, as well as the clues in the arcade game. It's a mighty task, and Martech are planning a competition around it which will involve Heather Couper, a day out in London at the Greenwich Observatory and a high-quality telescope — the company is hoping to add further goodies to that as well.

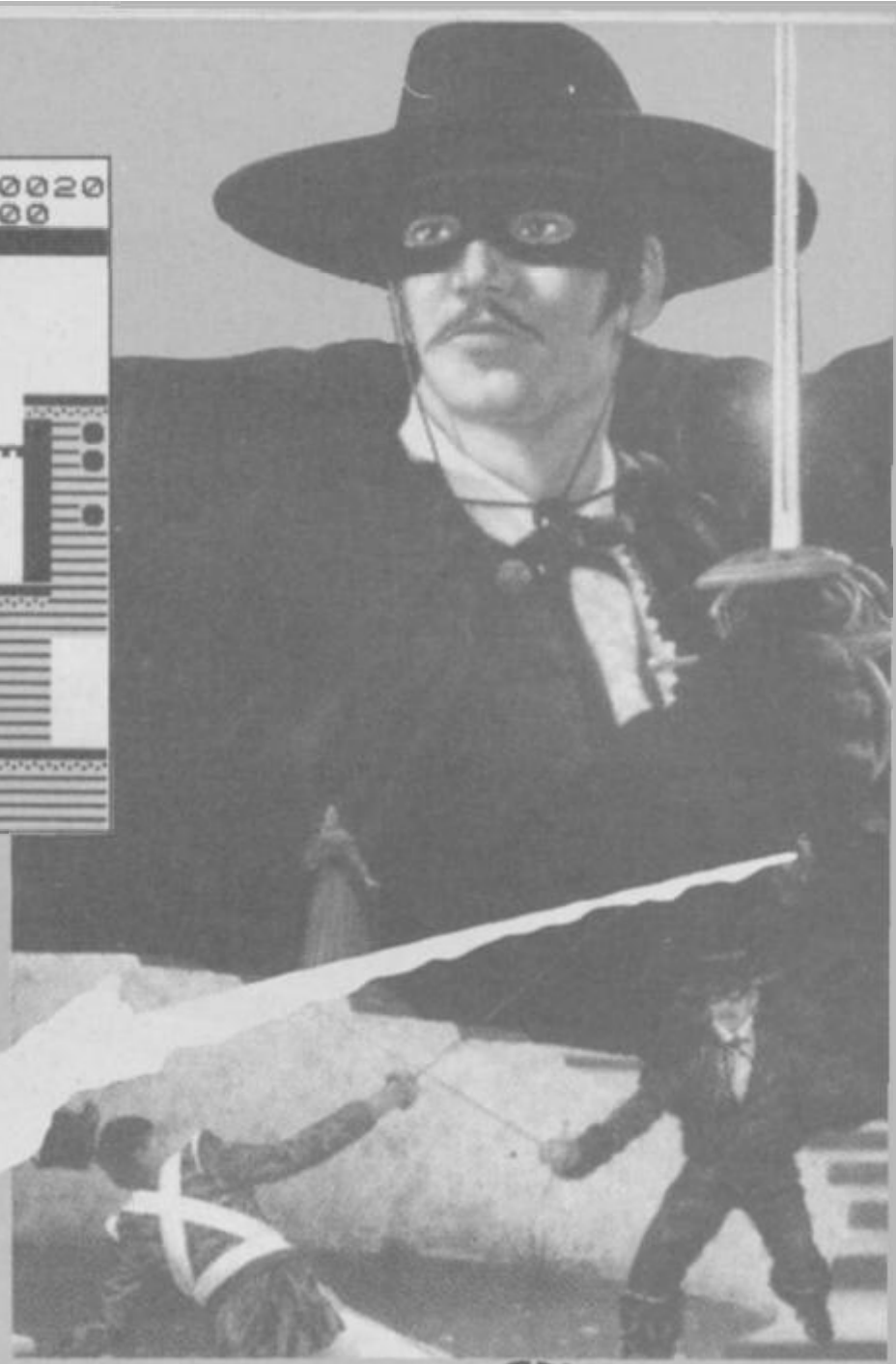
The graphics are superb, from what we've seen. The planetary surface is picked out in great detail, and on planets with atmosphere and weather you'll get animated screens showing the effect of wind and even volcanic activity. Those will also be much more tricky to land on.

Space flight itself will also include arcade sequences with 3D meteors and asteroids to dodge when passing through asteroid belts and maybe ring systems. The whole package sounds tremendous and well in the forefront of the most advanced soft operas such as **Elite** or **Tau Ceti**. It looks as if Martech is on to a winner for once. Start saving your pennies, and watch this space for a full review, hopefully next month.

Chris Bourne


GREEN BERET
Imagine
Konami®
ARCADE HOT SHOT
...the name of the game
SPECTRUM 48K
£7·95
SPECTRUM 48K
COMMODORE 64
£8·95
AMSTRAD
Imagine Software (1984), 6 Central Street
Manchester M2 5NS. Tel: 061 834 3939. Telex: 669977
Imagine Software is available from:
WHSMITH, John Menzies, WOOLWORTH, LASKYS, Rumbelows, Greens, Spectrum Shops and all good dealer





Zorro

BACK IN THE DAYS when the only attribute flicker was the flash of a hero's teeth, Zorro roamed the barbarous frontiers of Mexico, righting the wrongs done to innocent peasants by roguish soldiers.

The cut of his sword and his painful trademark — a Z slashed with the tip of his blade — were famous throughout the state but his aristocratic background was hidden behind a black mask. The authorities put a price on his head but the large peasant population aided his capers.

One soldier, Sergeant Garcia, set out to capture Zorro and stopped at nothing — legal or illegal — to catch his quarry and claim the reward. In US Gold's arcade adventure he has captured a pretty senorita and locked her up at the fort.

Zorro must battle his way through a series of screens, solving a puzzle on each to get to the maiden in distress and defeat Garcia.

He starts at the well outside the Ole 6 Hotel. Garcia struggles with the senorita on the balcony and a hankie flutters earthward. It is caught on the handle of the well and Zorro must collect it. There are several solutions to the problems and puzzles. For instance, movement between one partitioned part of the Ole 6 Hotel can be achieved by a climb and a jump or a bounce on the settee and a jump to the right. To gain height using the settee you must hold the up key down for at least 30 seconds. Then push the right key and Zorro will leap into the second part of the hotel.

From there he can go past the cemetery — which contains only one grave stone, a few crosses and a ruined church crawling with enemy soldiers — and onto the fort screen.

As you first get to the fort the drawbridge is raised and you are denied access to your love who waves forlornly from her prison cell.

Zorro is encouraged by the huge heart beating above her head — is this romance or horror? — and bounces off to the hotel, over the partition and onto the puzzle screens where the objects — including a useful key and a bottle of wine — can be found.

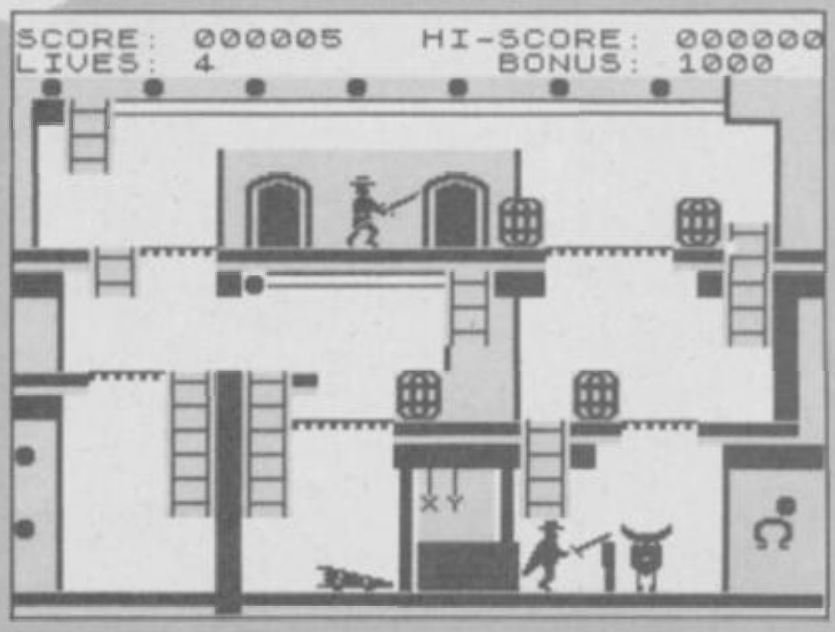
For some odd reason there is a bull in the livery stable. He stands guard over a lucky horseshoe. If you try to jump onto him and grab the object he will bounce you off his horns. You've got to be logical about the puzzles and branding the beast will make him more docile. All the equipment you need — forge, irons and bellows — are in the stable, so the solution should be easy.

There's also trouble underground which can be reached by one of a series of wells. Once past the balls floating on the lake — more bouncing involved there — Zorro must negotiate the catacombs and release a group of peasants who also have been imprisoned by the evil Sergeant Garcia.

Only after you have done all the good deeds can you rescue your love, and to make things more difficult Garcia's soldiers are after you. Between doing good deeds Zorro must fight duels with his sword, which is fairly frisky even when he's not in a fight.

Unfortunately, sword fights only deliver a paltry number of points. The big points are scored when the problems are solved.

Zorro is like **Jet Set Willy** with a sword. There are less rooms than the Willy game and the graphics are worse — yellow and black coupled with attribute flicker is not my favourite combination either.



The game also bears a resemblance to **Hunchback**, with its leaping hero and the Esmerelda figure who is the prize at the end of the game.

The problems in the game are not challenging enough and there are few surprises.

John Gilbert

SOFT 3 WARE

Publisher US Gold
Price £7.95 **Memory** 48K
Joystick Kempston
★★★

Benny Hill's Madcap Chase!

LECHEROUS, unsavoury and as usual vaguely pathetic, Benny Hill tries to beat Bruce Forsyth in seeing who can star in the worst computer game.

Luckily for Benny, Brucy wins; it would take something totally awful to beat **Play Your Cards Right**, and **Benny Hill's Madcap Chase!** isn't that bad.

The game is simple in the extreme, and play more or less consists of running from left to right and back again. Start off from Hill Street and the laundry basket, dash across a number of screens to a washing line, grab an article of clothing, head back to the start point and dump it in the laundry basket. You've now got 20 points.

It's one of the most pathetic excuses for a storyline I've yet to come across.

As you whip the unmentionables — an off-white bra and yellow Y-fronts — from the line you may well hear the pounding feet of a 16-ton Tessie in hot pursuit. This is one helpful neighbour who thinks you're nicking the knickers.

With her massive chest wobbling, she catches up and bounces into Benny. Splat! He hits the dirt, squirming, as she jumps up and down on his back. Eventually he staggers to his feet, a shaken man. But I could swear he winks.

If you are caught and jumped on while carrying some washing then it goes straight back to the line and you'll have to try again.

There are another two levels played in the same way with different objects to collect. You can only move to the next level when you have transferred all the articles.

The second level involves scrumping. This time it's the farmer chasing Benny as he relieves the apple trees of their fruit for Mr Bramley. Picking up jumble for Mrs Bargin is the third and final task.

Benny can jump three paces into the background allowing him to dodge irate members of the public and bits of 'street furniture', as the cassette inlay so charmingly puts it.

Street furniture consists of lampposts, telephone boxes, road works on the first level, barbed wire fences, a chicken coop, barn and trees on the second level — and I didn't manage to reach the third.

Each time Benny makes a turn from one end of the game to the other, he finds that lampposts have moved, one-way signs have jumped behind walls, trees are uprooted and wire fences have been rearranged. Crash into any of these bits of furniture and you'll bite the dust and lose two points. However, two points is a better deal than the five you'll lose if big Bertha stomps on you.

When you've got used to the perspective, you'll find it an easy matter to judge the distance Benny should travel into the screen to dodge the objects, and he can switch from the foreground to the background while on the run.

It is easy to detect the hand of programmer Don Priestley, author of **Popeye**, in the graphics. As in **Popeye**, they are large and colourful, but unlike its predecessor, the animation is fast and smooth, and the masking extremely effective. Benny trots around with an amusing high-stepping gait — and manages to look like a right ninny. To give Don credit, he is instantly recognisable as Benny's alter ego, Fred Scuttle.

It's typical of the seaside postcard humour of Benny Hill that when he's jumped on by the woman her skirt flies up to reveal knickerbockers, her wig almost leaves her head and her face is contorted in a grimace.

Each level increases in difficulty, not in gameplay which remains the same, but in judging the positions of the furniture. Most tricky are the barbed wire fences, which tend to be a little fuzzy.

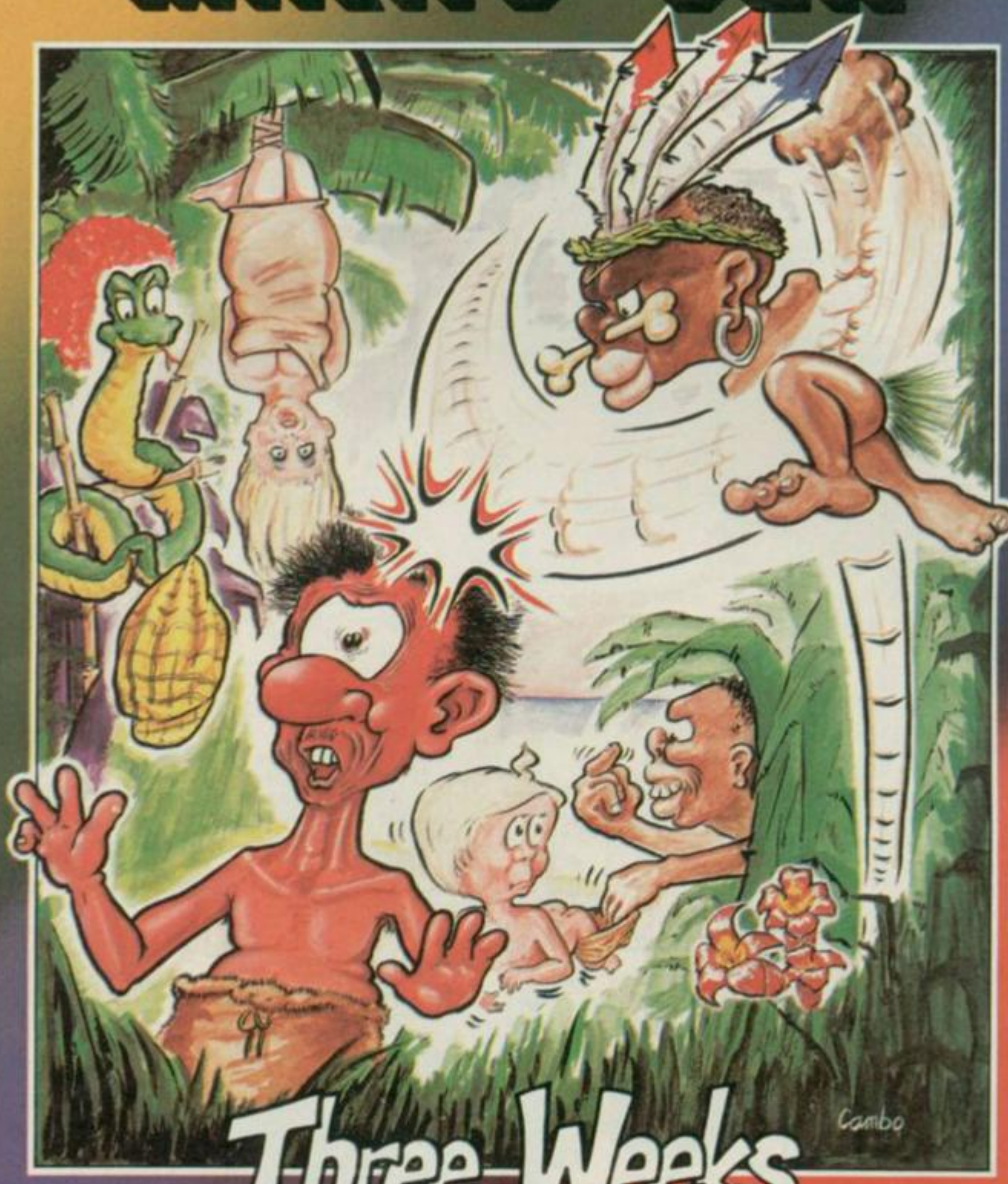
It's a pity that the story line is so simple and the game so limited. **Benny Hill's Madcap Chase!** has a very small playing area and to be honest, not a lot happens. If it weren't for the graphics, this game would receive less than the three stars it is awarded. *Clare Edgeley*

Publisher DK Tronics
Programmer Don Priestley
Price £6.95 **Memory** 48K
Joystick Kempston, Sinclair
★★★

SOFT 3 WARE

SENSATIONAL SOFTWARE FROM

MIKRO-GEN



Three Weeks in Paradise

48K SPECTRUM £9.95

Unit 15, The Western Centre, Bracknell, Berkshire
Tel: 0344 427317

Spitfire 40

I SAY CHAPS, Jerry's zooming in with his *Donner und Blitzens* and *Englisch Sweinhunds* and all that tosh again.

It's chocks away time, angels at seven, bandits at nine, don't prang the kite it's the only new one we've got Algy old boy, cripes, did you see the legs on that WAAF dakka-dakka-dakka I think the Wingco's bought it, OK, that's enough jargon, let's talk about the game.

Spitfire 40 is the name, Mirrorsoft is responsible for flogging it and you get no prizes for guessing it's set in the Battle of Britain. In fact what we have is a rather handsome flight simulation with combat sequences.

Attention to detail is impressive at first. When you load up you choose your pilot's name from a list of five. This seems dodgy. I'm not called Smith, Jones, Mackenzie, Marcel or Bolesky. On the other hand, I'm not a Battle of Britain fighter pilot. Let's choose Marcel, vive de Gaulle and up the Free French.

Marcel's details — no missions completed, no medals, no kills, no flying experience — are entered into a logbook on-screen. When Marcel proves himself this logbook gets updated and you can save it for later games.

There are three modes of play — practice, combat and combat practice. Combat is the main game where you are set a mission to complete. Practice is basically there for landing and take-off, and combat practice is equally obvious. Marcel is going out on a practice flight.

The screen display shows the controls of the Spitfire in excellent detail, concentrating on rather old-fashioned looking dials and some grubby shading round the edges, giving a good impression of what the real thing must have looked like. The first thing you'll notice, especially if you're a flight simulator fan, is there's no view of the horizon or landscape. Where's the window?

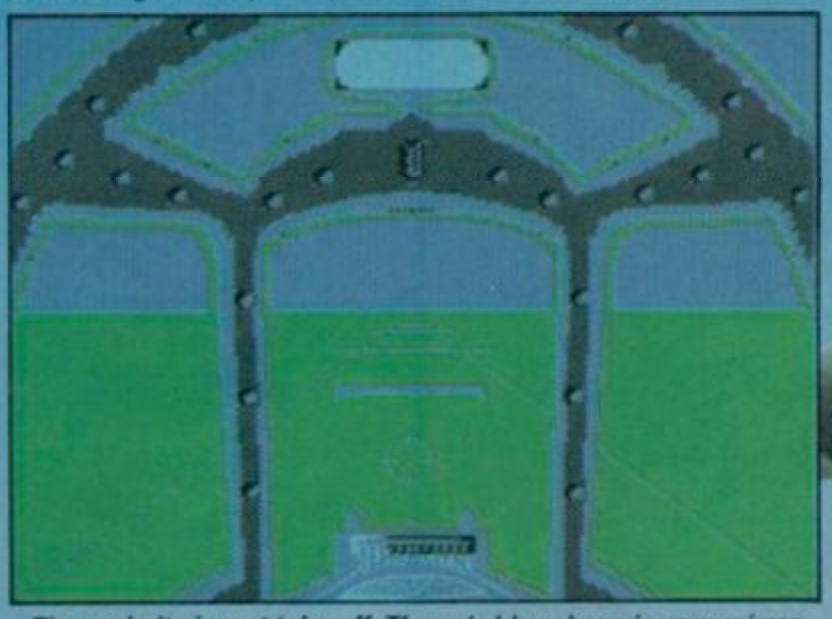
The window is got by pressing Space. You see the full view from the cockpit but lose all your instruments. Gunsights are there, and some dots at the bottom which are supposed to indicate altitude and speed, but those are very difficult to interpret.

The switching between controls and view is the major drawback of the game, especially when coming in to land — you must use the view to check your course for the runway, but you'll need the controls when you're just about to touch down. It's easy to be on the wrong screen and crash through not knowing what you were doing. It's the price of that great display of dials, but is it too high a price to pay? Let's see how Marcel gets on.

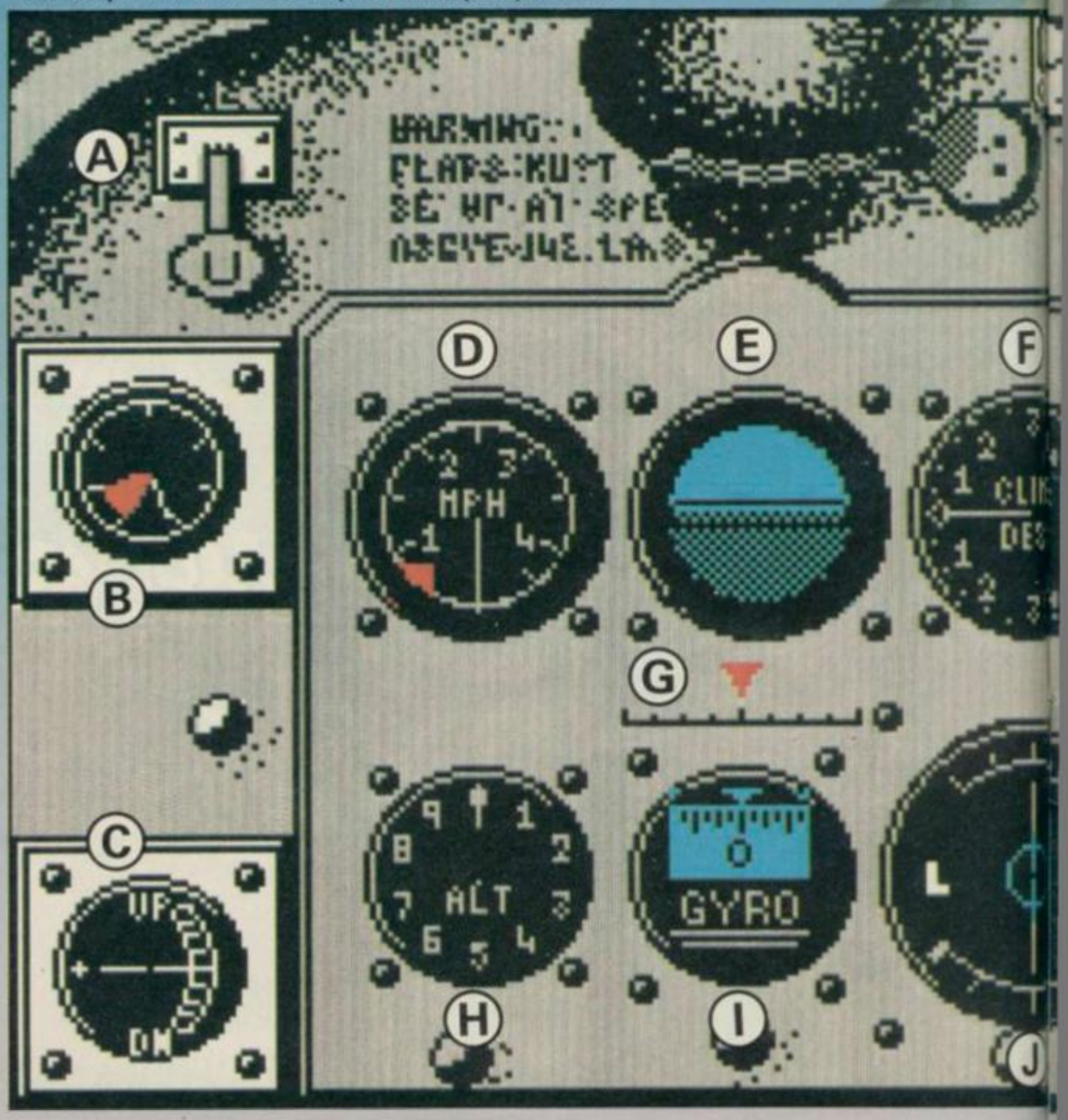
Taking off is dead easy.

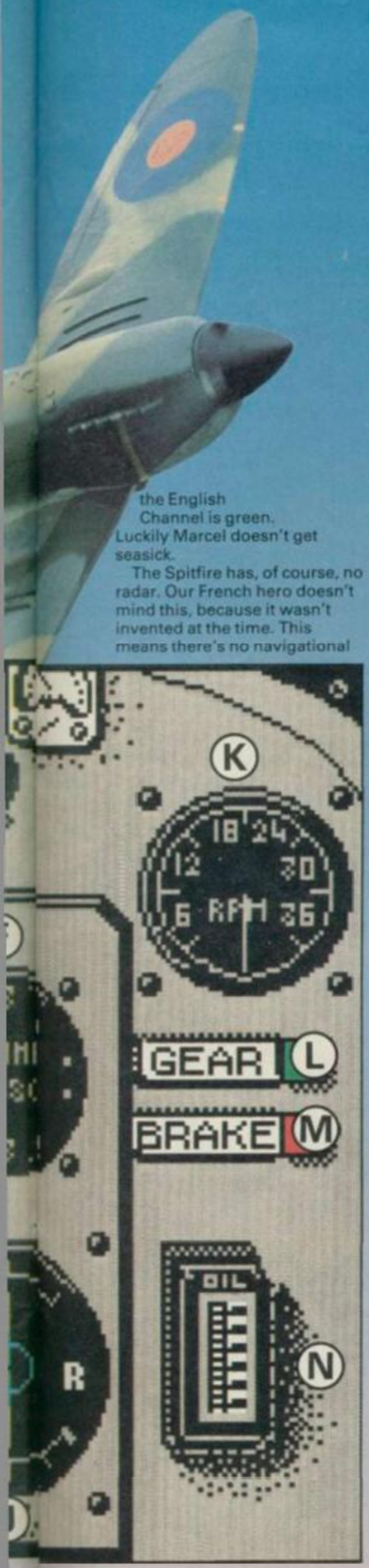
You increase throttle to 1800 revs, let the brakes off, increase power again to 3200 revs and when your speed gets to about 100mph lift the nose up and you're off. Marcel can do this in his sleep, although it's quite easy to find the Spitfire violently bucking when the undercarriage is raised or the flaps down if you're not careful about the speed. Luckily Marcel has read the useful booklet with all its tips on correct flying.

Marcel is now climbing steadily over the beautiful patchwork fields and rolling downs of Kent. All he can see from the cockpit, however, is a completely flat blanket of green. It goes on and on for ever. Even



The cockpit view at take-off. The pale blue shape is your mirror





the English Channel is green. Luckily Marcel doesn't get seasick.

The Spitfire has, of course, no radar. Our French hero doesn't mind this, because it wasn't invented at the time. This means there's no navigational equipment like you get on modern-style aircraft, and you have to fly entirely by judgement and sight. In order to find out where you are going, look at the map.

The map shows an area of Southern England with three big rectangles on it. Those contain three airfields, and some other surface detail, and if your aircraft is in one of them you can magnify it. Marcel has a quick look and notices some blue shapes marked on the map. Unfortunately, when he flies the Spitfire very close to have a look through the cockpit, they don't turn into anything except bigger blue shapes.

The runway looks OK, but as for the rest of these details, they don't really seem worth defending. Let Jerry have them, thinks Marcel, and promptly crashes into a large blue triangle. Mr Churchill is not amused. Black mark, de Gaulle.

Flight Officer Mackenzie — our second guinea pig — decides to skip the practice routine and go straight into combat. This is much more fun. He receives a direction: Bandits 4, Intercept 11, Bearing 253°, Height 5,000'. That means there are four German fighters, 11 miles away, nearly due west at the given altitude.

Off he goes in search of glory.

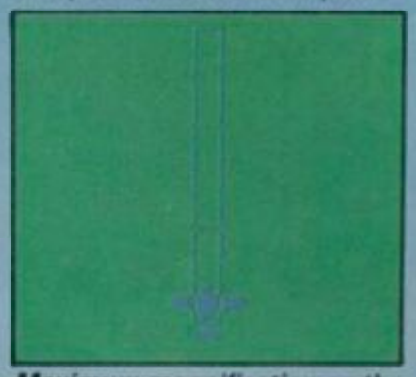
Height is very important in combat. The traditional way to do things is to get above your enemy and behind him, then come screaming down in a furious pounding of cannon and blow him into little bits. Even better, come out of the sun so the poor sod can't even see you before he's roast pork and mostly crackling. War is not romantic, whatever you may think of Biggles.

Spitfire 40 doesn't simulate the sun, but the enemy certainly does its best to get on your tail, and once there is hard to dislodge. Mackenzie discovers a most spectacular way of getting out of trouble — looping the loop and doing a half roll at the top of the loop, then pulling out of the dive before completing the loop.

That brings him hurtling straight down at the enemy, and surprisingly, he manages to pull out of the dive just in time to meet another Messerschmitt or whatever on the horizon.

Dogfighting is good fun. The enemy planes are small and stay small, but that's all to the good as they present a more difficult target. A mirror above the cockpit view shows an enemy fighter if there's one on your tail, and if you don't shake him fast enough your glass windows will be peppered with bullet holes and your flying jacket becomes distinctly ragged.

It does seem to be much easier to shoot down planes when coming in from behind, but that's hard to assess in the hurly-burly of combat. The most exciting part of combat is the way you have to fly on vision alone — there's no time to flip screens and check your dials. What is a drawback on landing therefore becomes an advantage in fighting.



Maximum magnification on the map — the Spitfire is lined up on the runway

Unfortunately, Mackenzie, having destroyed his four bandits, fails to make it to the runway at the right height and attitude and consequently gets posted missing in action. There won't be a dry eye in the WAAF's mess tonight.

Jim Gregory and his pals have done a good job for Mirrorsoft in re-creating the atmosphere of the Battle of Britain. The concept of saving your record in order to progress in rank and glory is a good one, and the instructions state that life gets more difficult as you move up the promotion ladder — landings have to be more precise and so on.

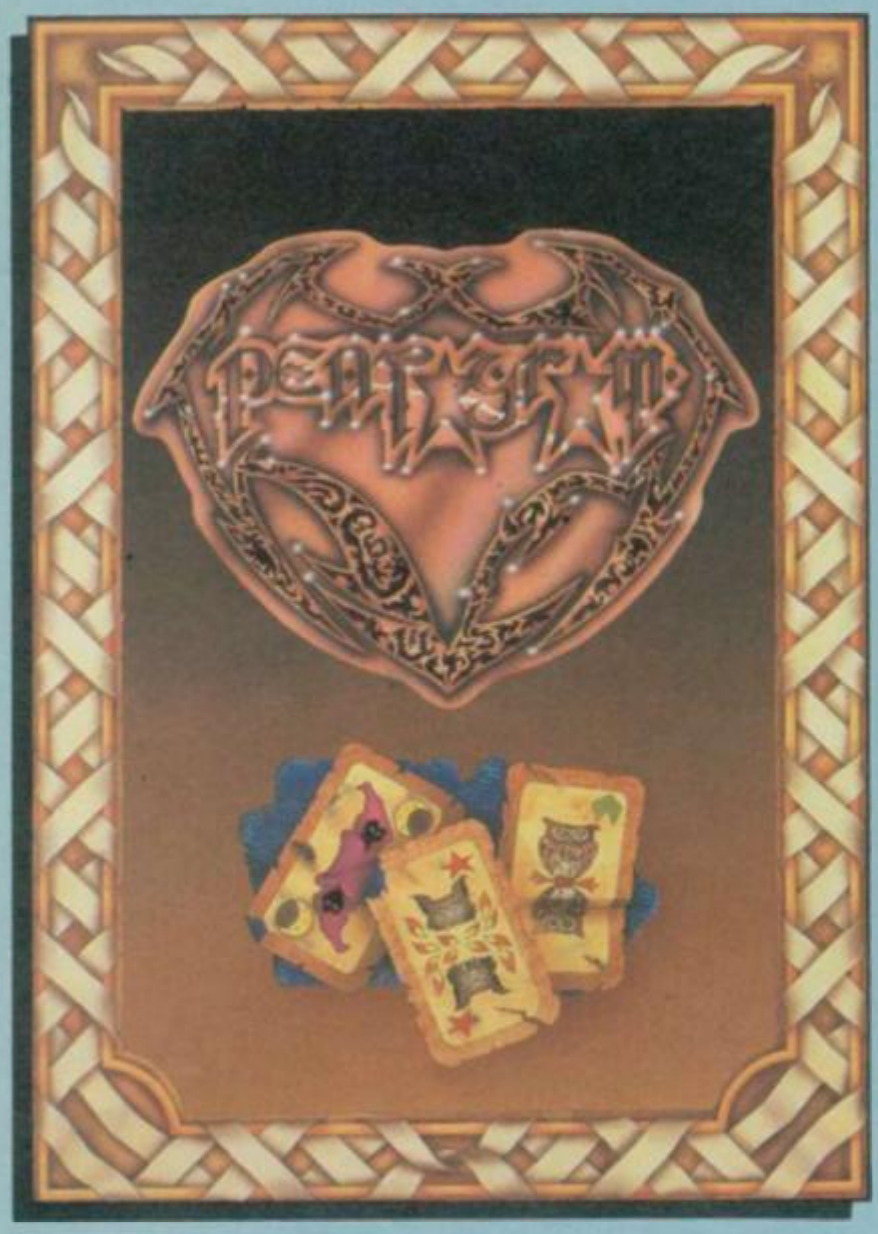
In fairness to the lack of detail on the landscaping, there are a lot of features not included in standard flight simulations which clearly eat up the memory. It would have been nice however to see something more interesting than little blue shapes on the ground, if only some patterns of dots for field boundaries and roads.

The controls are suitably responsive for such a manoeuvrable aircraft, and there seems to be little you cannot do in the way of aerobatics. The alternative screen system has its drawbacks, but does at least provide an excellent array of instruments when in that mode, uncluttered and realistic.

Not quite a Classic, then, but definitely Mirrorsoft's finest hour. *Flight Officer Chris Bourne*

Publisher Mirrorsoft
Price £9.95
Memory 48K
Joystick Kempston, cursor, Sinclair
★★★★★

A Flaps lever — up or down
B The fuel guage
C The attitude of the aircraft
D Speed in miles per hour
E The horizon. Enemy aircraft do not appear on this, but only with the cockpit view.
F Rate of climb or descent
G This indicates your angle of banking
H Altitude in hundreds of feet
I The gyro shows the bearing on which you are flying
J The top arrow shows your rate of turn, and the bottom the rate of sideslip, left or right
K The revs are shown in hundreds. Sudden changes in throttle power tend to have alarming effects on stability of the aircraft
L Undercarriage indicator
M Brakes — either on or off
N The oil guage measures how much you overheat the engine



Leaders in their Field.

ULTIMATE
PLAY THE GAME

Leaders of the Pack.

U.S. GOLD
All American Software

Together – bringing you the World's Finest Spectrum Software

PENTAGRAM and CYBERUN are available for the Spectrum 48K and Amstrad from selected branches of W.H. Smith, Boots, John Menzies, Woolworths and all good software stores. Also available from Ultimate Play the Game, The Green, Ashby-de-la-Zouch, Leicestershire LE6 5JU (P&P included).

£9.95 including V.A.T.

WOULD I like to fly one of these for real? Fly one of what? A Skyfox fighter — that's what!

Just crank up the auto-pilot and sit back until you're in the combat zone then zoom around at 200 mph, dropping to six feet above the ground, blasting alien tanks. Then up to 36,000 feet to take pot shots at enemy aircraft. Hell, you can even run the thing into the ground with impunity! The worst you get — on the lower levels, at least — is a message on your hi-tech

console, warning you to take off again before you start collecting parking fines!

But flying a Skyfox for real is unlikely because despite its surface trappings of being a combat-orientated flight simulator, **Skyfox** is really unreal — a strange amalgam of all the military fetishist's wet dreams and a dose of sci-fi.

The graphics suggest nothing so much as Middle Eastern conflict wth the rocky desert landscape and crawling tanks, and the jet fighters are undoubtedly earthly looking, but still the instructions talk about motherships, aliens and home bases. So don't expect a **Fighter Pilot**; let the computers in your plane and at home base do the navigating . . . and settle down to a good bit of blasting action.

First though, ignore the instructions reference to a multi-part load for different missions. It's an error to be grateful for, as the game is complete without delays for further sections of code. Secondly, while loading, search for the keyboard direction instructions. They sure weren't on our copy, so for those without a Kempston or Sinclair joystick to steer the machine, left is J, right is K, pull back on the stick is M and push forward I. And now you're ready to take on those reds, be they Martians or of a more terrestrial kind.

First the menu, which comes zooming down out of the sky into your cockpit. As well as your level — there are five, from the forgiving Cadet to the ultimately testing Ace of the Base — you choose the scenario. Recommended is Tank Training, which lets you zoom around at crop-dusting height but at 200 mph.

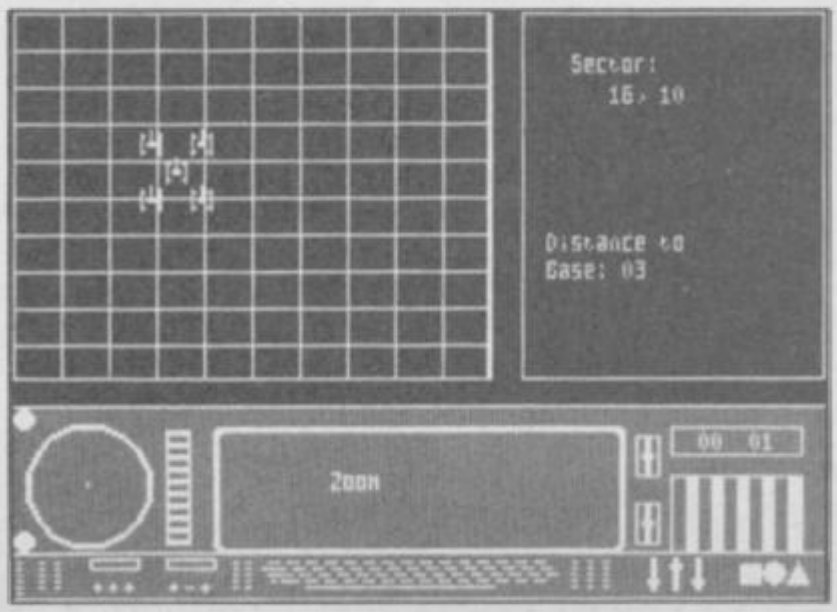
Here you'll get your first taste of how good the graphics are in this game. Though the approach of the tanks looks rather stepped, they're well drawn, shaded monochrome sprites. There are some nice sound effects as well, though as always one wishes the hardware could give them more volume.

At this easy level your flying will concentrate almost solely on turning and keeping as low as possible without scraping the ground. You may wish to accelerate away then dive back in, but that's slightly less than convenient — plus and minus are the speed controls, meaning you have to use symbol shift too.

Once you tire of this you can move up to Tank Training Two. Now the tanks are spread across the map and you'll need auto-pilot to take you from area to area. Not that pressing A will give you problems — it's just that you have to be ready for action immediately you begin to slow down from mach two.

There are three Plane Training Scenarios. The first one has that ever-handy auto to put you on the tail of the enemy — blast them quickly or they'll soon turn the tables. You'll need to be even quicker in the second scenario as they're coming straight at you, while the third presents a pattern spread around the map.

You'll find air combat calls for somewhat different flying techniques and much more dependence on your radar's vertical scan, which toggles with an overhead view. There's also a chance to use your missiles — you're equipped with limited numbers of both heat-seeking and guided. Arm them with the respective initial key, target the enemy, then let fly. Once again the sprites are effective, with an exciting sense of high speed jet combat.



Other practice modes introduce you to high and low combat, flying through a dead zone of clouds to take out forces on the ground and in the air, but by this time you'll be hungry for some real action — and **Skyfox** offers everything from a small invasion to a massive onslaught, where you'll have to face up to six motherships whch you'll need to destroy before they launch even more tanks 'n' planes towards your base.

It's here that the real strategy appears. Using the base computer map you can check up on the position of the enemy so that you can defend your weak spots. The auto-pilot may still be useful but you'll also need human judgement. You'll also find yourself running out of fuel as you alternate between high and low combat, or using the power hungry afterburners for quick thrust, which means landing at your base to refuel and repair shields. Again this calls for instrument navigation. If you need to know the details of a map square, there's a handy zoom magnification facility.

Every so often a 'Launch Detected' message will flash up, which means that the mothership has sent out a bomber against your base. Intercept it during its run if you're to stay in the game. And if all that hasn't been enough, there are five special strategy attacks with multiple motherships to keep you on your toes.

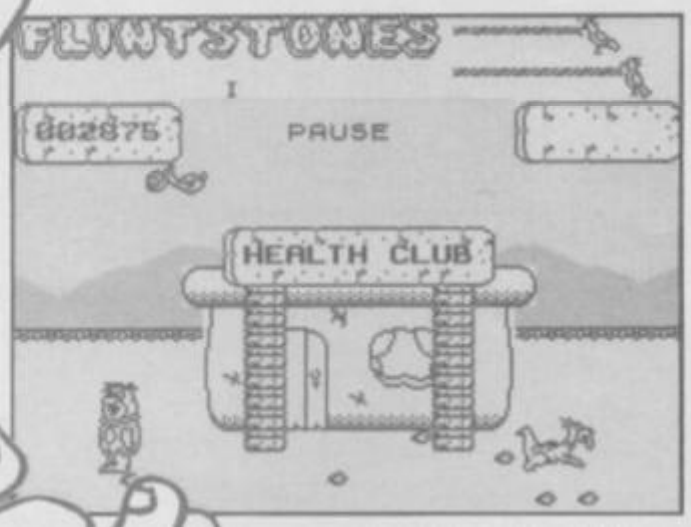
There you have it. **Skyfox** isn't as complex to control as **Fighter Pilot** but that means it's a lot easier to get into and there are many thrills on the way. Apart from one or two complaints about control, such as the need to use shifted keys and a slight tendency for too fast a repeat, it's an exciting shoot 'em up that gets the adrenalin pumping. And real or not, I don't care who the enemy is . . . just let me at 'em!

Jerry Muir

Publisher Ariolasoft
Price £8.95 **Memory** 48K
Joystick Kempston, Sinclair
★★★★

SOFT 4 WARE

Yabba Dabba Doo



YABBA DABBA . . . Ooh dear! What are the Flintstones doing in a computer game? And one which makes them look like a right load of brontasaurae?

Yep, Fred, Wilma, Dino and Co have made their debut into the world of high-tech programming and low-tech graphics. Join the happy gang and help Fred build Bedrock, the boulder-strewn habitat of the stone age knuckleheads.

The story line is simple and predictable. Clear the site of pebbles and build Fred's house before the Rubbles and other neighbours can build theirs. Then find Wilma and persuade her to set up home with you.

According to the cassette blurb, Wilma tends to hang around the Drive-in or Burger Bar. She seems to appear at random and is likely to crop up in almost any of the 35 screens. She's a bit like a can of Heineken — give her a kiss and you'll regain your strength. A pulsating heart then appears — the harder it pumps the more likely she is to run home with you.

Anyway, there's no point worrying about Wilma in the early stages because your first priority is the house. Clearing the site of small pebbles is a frustrating and thankless task. Pick up a pebble — two if you can manage it — walk into the next screen and chuck it into the pit. Repeat this seven or eight times until the area is clear.

A pterodactyl flies across regularly, dropping pebbles and boulders on Fred's head and the surrounding area. Just more mess to clear up.

Now collect the boulders and take them back to the homestead. If you place one in the right position a section of the house will appear. You'll have to travel far and wide to collect the rocks — that means over five levels in depth and seven screens in width. If you can find your car, you'll then travel faster. Dodging the various hazards, including the turtle, rolling rock, pterodactyl and the occasional dinosaur, will then be easier.

Eventually Fred reaches the roof building stage and has to hire a dinosaur with a scaled back to allow him to walk up to the roof — rather like a staircase. But before he can enter Dino-hire he must earn some cash down at the quarry — a dollar sign appears when he has earned enough. For a few seconds after collecting the cash Fred is immune to the life-sapping ankle-biting turtle, and the other prehistoric perils.

Before the house is complete Fred must meet up with Wilma as often as possible to get the heart — in the right hand corner of the screen — pumping like the clappers. Only when it looks as if it's about to explode will she return home with him.

Travelling through the screens is innovative, if confusing. To move up to another level, stand in one corner of the screen and push the joystick diagonally upwards. To move to another screen on the same level, stay away from the corner of the screen and stick to the centre.

One sure way of telling which level you're on is to look at the stone wall which runs through each screen. If it's very large, you've moved into the background and near the hills. If the wall is a thin line, you're in the foreground.

The scoring system is suitably neanderthal. There are two stone slabs with birds pecking at them. The top slab represents Fred's energy level which Wilma can increase with a kiss, the bottom slab shows how many times he's been bowled over by a nasty. When the bird eats the stone, Fred loses a life.

Surprisingly — given the relative success achieved by others in re-creating cartoon characters on the Spectrum — the least attractive feature of **Yabba Dabba Doo** is the graphics. Colour and scenery are flat and unadventurous — blue sky, green hills and yellow foreground. That's it.

For the most part any masking routines are non-existent — Fred, Wilma and the rest of the brainless gang run around, transparent figures which merge in an unholy mess of squiggly lines when they collide or pass one another. When a half-hearted attempt at masking is found — when, for instance, Fred passes in front of the wall — it's so clumsy you wish the programmers hadn't bothered.

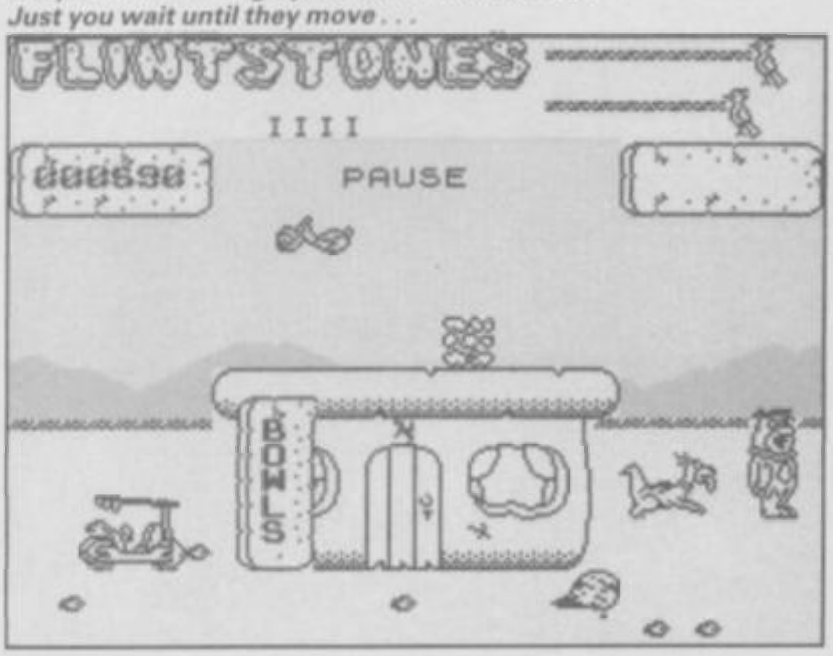
The press blurb which accompanied the game brazenly informed us that the graphics on the Commodore 64 version 'have been faithfully translated to the Spectrum and are truly remarkable'. If that's so then Yabba must have set a new low for Commode graphics.

Actually, we have it on good authority that the C64 graphics bear very little resemblance to those on the Spectrum.

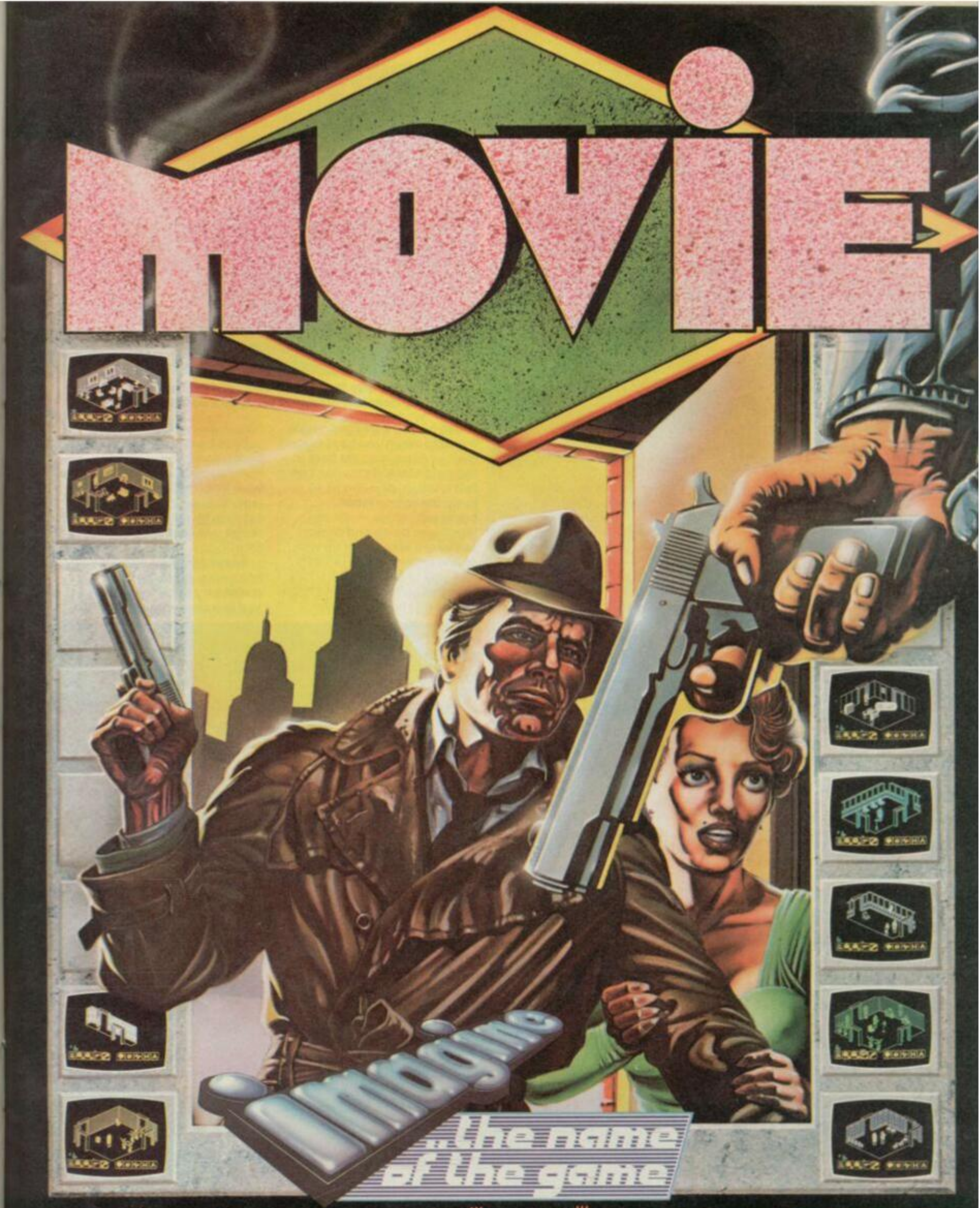
Still it is truly remarkable that after **Knight Lore, Popeye** and **Three Weeks in Paradise** Quicksilva still thinks it can get away with charging £7.99 for this.

Clare Edgeley

Bet you think these graphics don't look too bad. Just you wait until they move . . .



Publisher Quicksilva
Programmers Taskset
Price £7.99 **Memory** 48K
Joysticks Kempston, Sinclair
★★



3D GANGSTERS "HIT" YOUR SCREEN

SPECTRUM 48K
£7·95
SPECTRUM 48K

Interactive 'bubble' speech adds to the drama of this true life detective movie

Don't miss this picture - it speaks for itself!

AMSTRAD
£8·95
AMSTRAD

Imagine Software (1984) Limited • 6 Central Street • Manchester M2 5NS • Tel: 061 834 3939 • Telex: 669977

Imagine Software is available from: WHSMITH, John Menzies, WOOLWORTH, LASKYS, Rumbelows, Greens, Spectrum Shops and all good dealers.

Show Jumping

SHOW JUMPING is one of those sports which hasn't been over-exposed on the Spectrum. Maybe that's because there's no equivalent in the amusement arcades, or perhaps software houses think show jumping is just for the girls, and not worth bothering about.

Anyway, Alligata has more than compensated with a fine simulation which should have you on the edge of your seat during the jump-offs and your family imitating the strangled tones of horse-loving commentators.

You can play on your own or with up to eight people in a grand competition. The solo version is really a training mode, starting with easy courses and building up to the more complex arrangements of the competition courses.

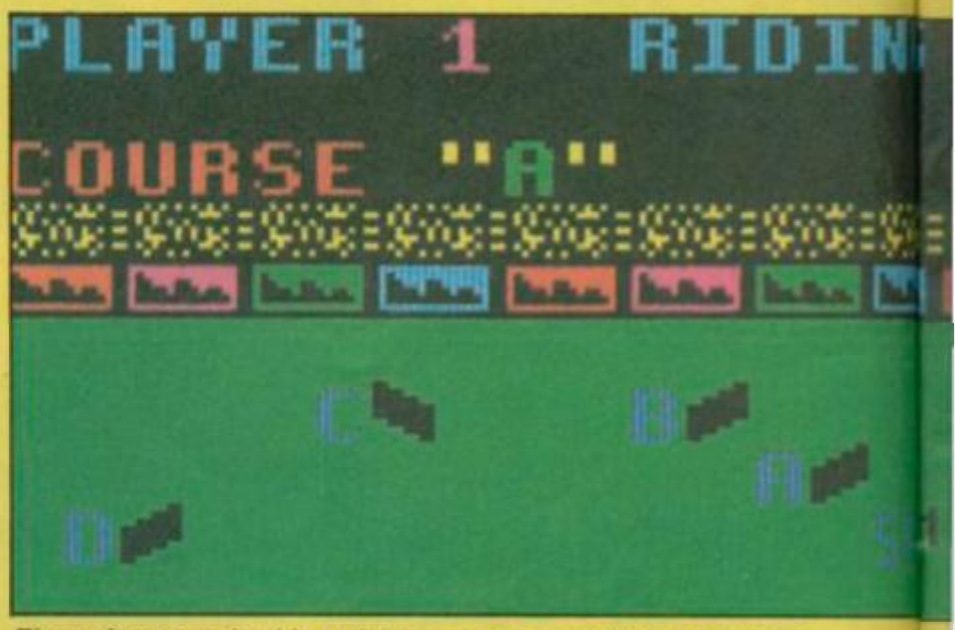
Although the screen is dull in comparison to some of the more spectacular sports simulations, the animation of the horse and rider more than makes up for that. Alligata claims around 190 different positions for the horse, and the result is very realistic, particularly when you jump a fence. The horse leaps up effectively, the rider leans forward and the back legs kick as it clears the fence.

Control is nevertheless easy, with left and right turning the horse, up and down accelerating and decelerating, and fire for jump. Your turning circle is naturally larger if you are cantering than if you are at a standstill.

The essence of show jumping is that the horse does the jumping while the rider guides the horse, and that is what happens in the Alligata game. The easy part is getting over the fence. The difficult part is making sure your horse is in the right position and moving at a reasonable speed to give it a chance.

The course is spread over four screens, and before you start you are shown a diagram of the fences and the order in which you must jump them. When, at the difficult level, you have to remember ten or more fences, that in itself is a major problem. Each fence is lettered and the letter flashes to indicate the next fence, but you also have to remember from which side to jump it. If you can't visualise the position of fences off-screen, you are also likely to find yourself coming in at quite the wrong angle, and may even crash into one by mistake.

All the courses must be completed within 100 seconds,

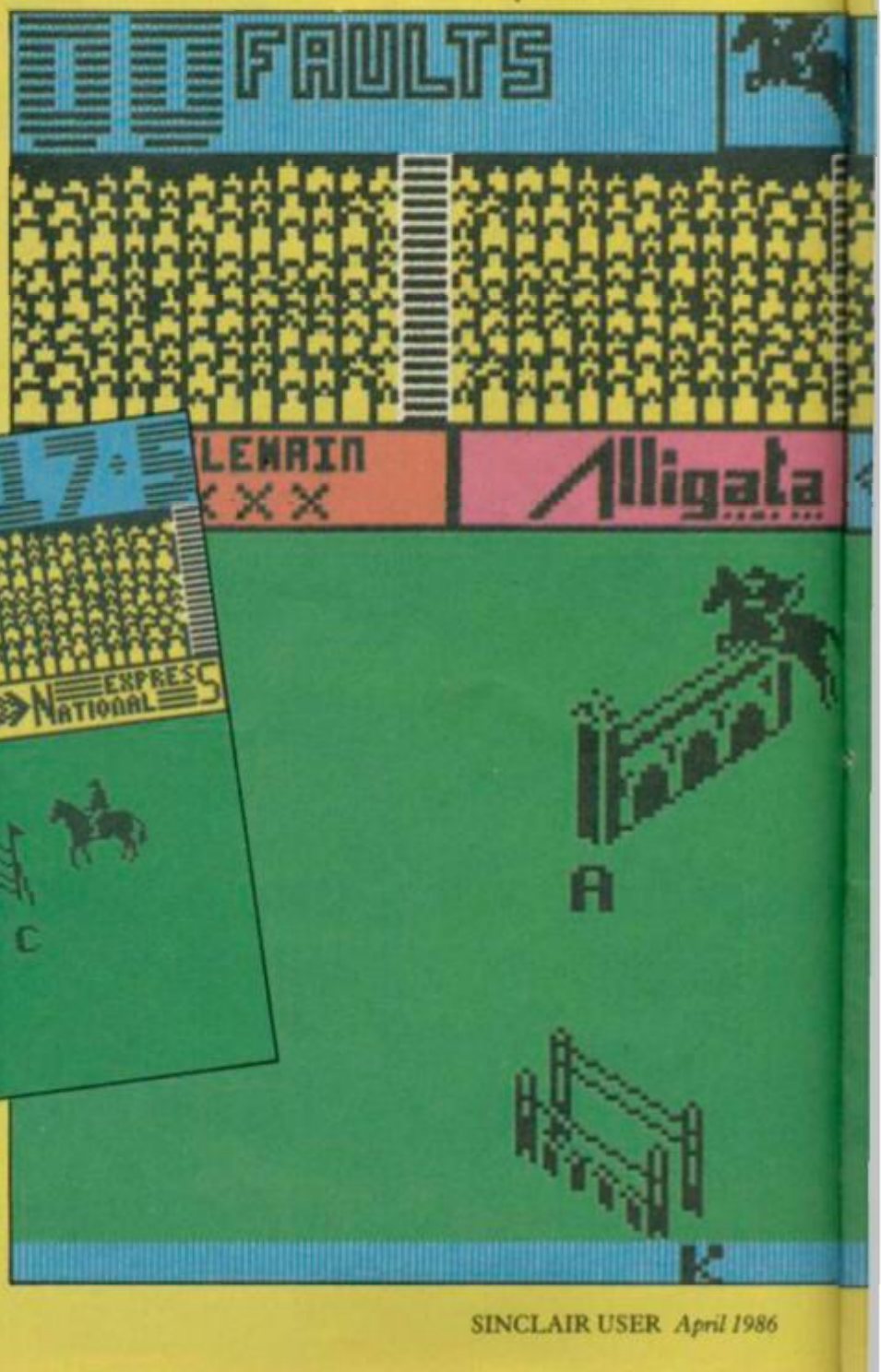


Eleven fences make this a tricky course, especially in the closing stages. The direction of jump is given by a flashing arrow later

which is easy if things go right but hard when you have to start making detours to get back to the right place. If you don't go fast enough, or if you try to jump the wrong fence, your horse will refuse — it's an intelligent being and doesn't see why it should put up with stupid orders. Three refusals and you're disqualified, so it's better to go for broke and hope you don't knock too many fences down on the way.

Each fence down costs four faults, and I was pleased to see that you can knock the bars with your front feet as well as hind legs. The one thing you don't seem to be able to do is fall off the horse. That's probably a blessing.

Show Jumping is immensely enjoyable, partly because it doesn't try to be too ambitious and just concentrates on the



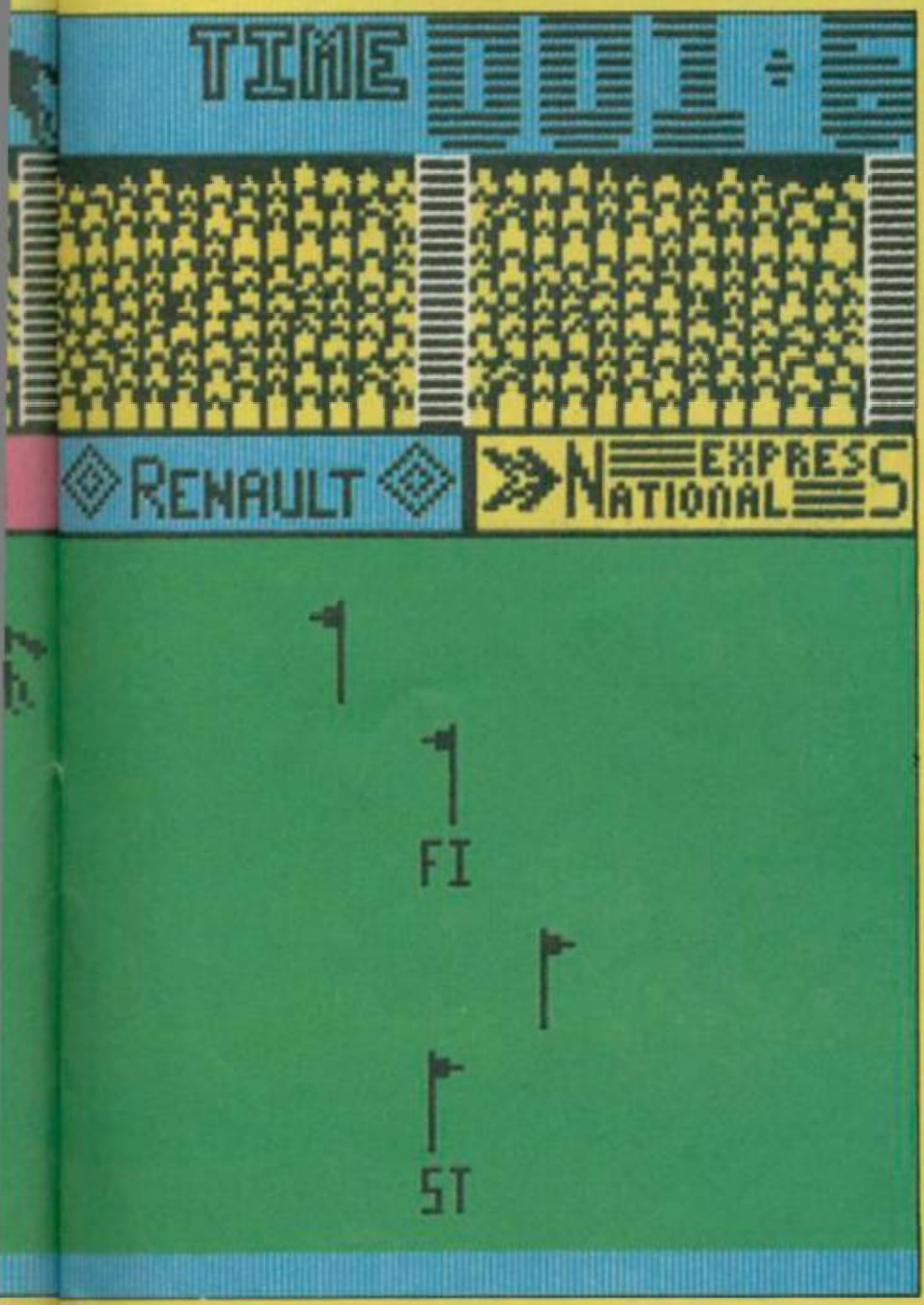
Right: The first fence is neatly lined up for you. Below: The rider must make a difficult turn to be safe at the brick wall

basic mechanics of the game and getting them right. Presentation is a bit sparse — notably, there isn't any sound during the game itself. We also found a minor bug, in that some courses stop the clock when you jump the final fence, instead of when you cross the finishing gates. That doesn't spoil the enjoyment, though, and Alligata has promised to look into the matter and fix it before the game is finally released.

If you require all the splashy background graphics and other frills, you may be a little contemptuous of **Show Jumping**, but fans of the sport and those who attach more importance to the game should certainly check it out — it's one of the more attractive simulations around.

Chris Bourne

Publisher Alligata
Price £7.95 **Memory** 48K
Joystick Kempston, cursor
★★★★



Hypa Raid

AVOID THE Ruskies and steal the parts of their top secret MIG Starfighter from under their noses. The plot sounds a bit like *Firefox*, where Clint Eastwood has to steal the Russians' new MIG figher plane.

Hypa Raid doesn't bear much resemblance to the movie; it is basically a levels game without the ladders and with a few guards and puzzles to solve for good measure.

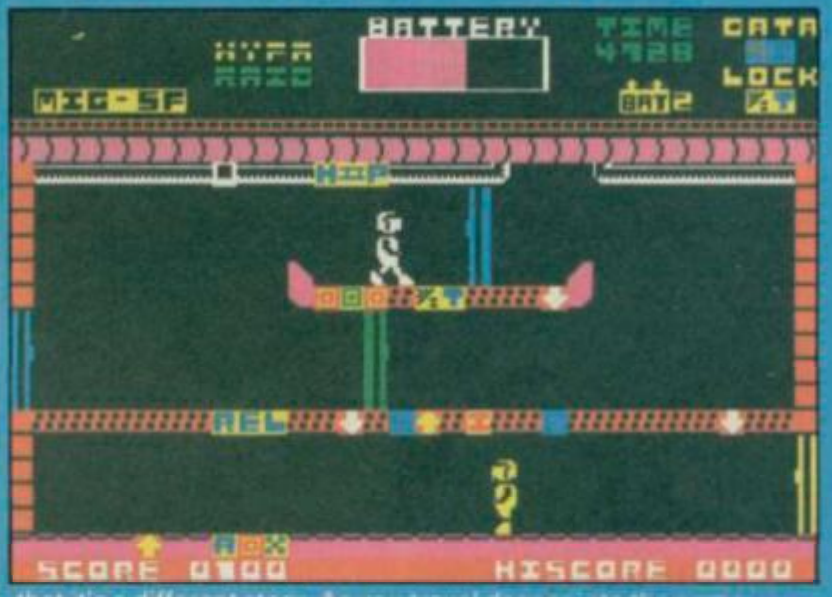
Scattered throughout the screens are a number of pieces of the Starfighter — little blobs, in fact. You have to collect those by dodging up and down the levels in each screen, avoiding traps in the floor and opening doors and partitions.

The game is by no means original, but the puzzles require split-second timing and a little thought before making each move. You have four batteries in your protective suit, and when each of those is drained you lose a life. Being caught by the patrolling Russians and stepping on a trap causes huge energy drains, so watch out.

Buried in the floor of each level are lock cards, represented by a 'T', data cards, 'C', arrows pointing north and south which jump you from level to level and the dreaded traps. Those are coloured squares which alternate between blue and yellow. Step on a yellow one and you can say goodbye to your battery. They swap rapidly so be quick.

The access or lock cards are colour-coded and you will find that to get through a blue door to the next screen, you will first have to open a partition and one or two other colour-coded doors. As you can carry only one lock card at a time, you will have to retrace your steps two or three times. At least one level on each screen is divided by a wall which can be opened by a key, placed in the most inaccessible part of the screen. To get to the key, you may have to open several doors.

The first three screens are easy — they don't require much thought and you can whizz through them fairly quickly. After



that it's a different story. As you travel deeper into the game you'll notice that each screen progressively becomes more complex with more traps and doors.

Two of the most vital parts of the Starfighter are hidden in special secure chambers. You can't just open a door to get them. The data card is needed in these cases to open the door. And, as an added precaution, the floor is booby-trapped. The data cards are not easy to find and are hidden on other screens.

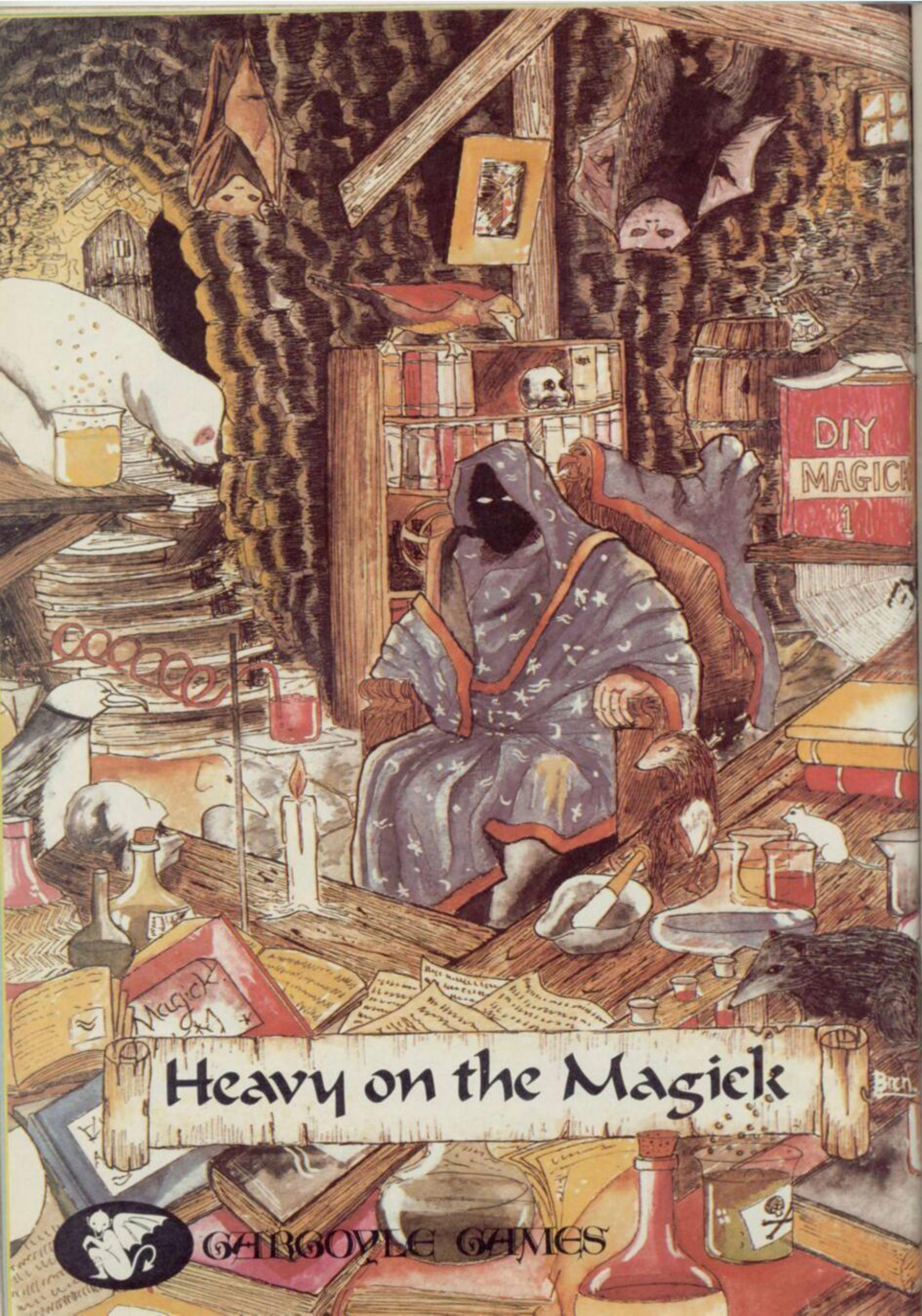
There are other signs embedded in the floor — one which offers you the chance of a breather, another is a hyperport, I'll leave you to work out the rest. One useful square is a transporter, which carries you into another screen, although to get to it you still have to open a door.

Once you have collected all four parts of the MIG, make your way back to the teleport room prior to escaping. This can be very tricky as it is well hidden and there is a time limit — if you hang around, you'll get the chop.

Hypa Raid is a simple game and yet very playable.

Clare Edgeley

Publisher Atlantis
Programmer Nigel Edwards
Price £1.99 **Memory** 48K
Joystick Kempston
★★★


DIY
MAGICK
1
Magick
Heavy on the Magick
GARGOYLE GAMES

Gerry the Germ

FIREBIRD has rushed straight from the toilet with its latest game in which Gerry the Germ tries to prove himself by giving some poor human victim a massive coronary. The company has been caught with its pants down as the game is unplayable.

Inside the cassette box you will find a poster illustrated with blue-tinted cartoons, rather like the ones you find on the walls of doctors' waiting rooms. The diagrams and cartoons are supposed to show you what to do on each screen. Instead the author has gone OTT in a guided tour of the human body's sewage system, with the help of bog rolls, deep water in the bladder and gas pockets. (Note to sensitive readers: STOP READING HERE).

Gerry has failed his Stinkploma at the Illistute of Infectology. Now he's fighting back and hopes to get that beauty prize of Virulent Virus of the Year. To do that he has to go through a healthy human's water works and give it the wobbles. If successful body temperature will increase and things begin to cook.

However, the only thing simmering was my blood, when I was faced with the task of getting off the first screen, 'humorously' entitled Lungeroo.

In the Lungeroo Gerry must collect a bottle of oxygen which is created when blood cells get together at the centre of the screen. Firebird gives some advice for conquering this bag of hot air but it's damn near impossible to carry out.

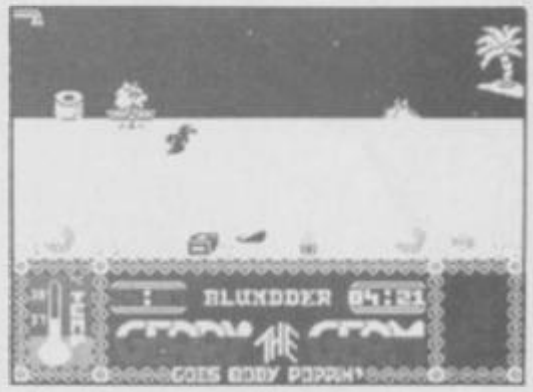
Gerry is supposed to go to the bottom of the screen and position himself in the middle. He should then wait until the blood cells split up and follow one as it does its acrobatics while helping to form a bottle.

According to Firebird you can then go in and collect the bottle. Nobody in the office could collect one of the bottles — let alone the six required to finish the screen. If you do succeed on this screen, then you pass into the kidneys, where a rather unpleasant incident in the loo gets Gerry into the bladder.

If Gerry gets hit by a blood cell in the lungs he's evacuated to the bladder. He must paddle his boat which rises and falls as water comes in through a tap and leaves in a flush of glory.

A toilet roll will block the flow if you don't keep it out of the way of the tap and under your boat, while avoiding a cock and bull (*what? Ed*) which will try to sink you. If that happens you're sunk for good and you immediately return to the lungs — it's so true to life it actually has you throwing up.

From the bladder you pass into the stomach — this sure is some sick person. To do this the water level must touch the bottom of a palm tree on an island. It's difficult because



when Gerry tries to defend himself the zapper repels the bog roll which flies across the water and flips up into the tap's mouth.

In the stomach Gerry has to avoid tapeworms, gas pockets and healthy foods such as apples. The stomach also contains aspirin which can be controlled with an acid bottle and junk food which gets in the way of Gerry's fun.

The pancreas is even more disheartening, with its white blood cells, medical supplies and body driver who controls the digestive systems. You get rid of the little man by burying him under an avalanche of coal.

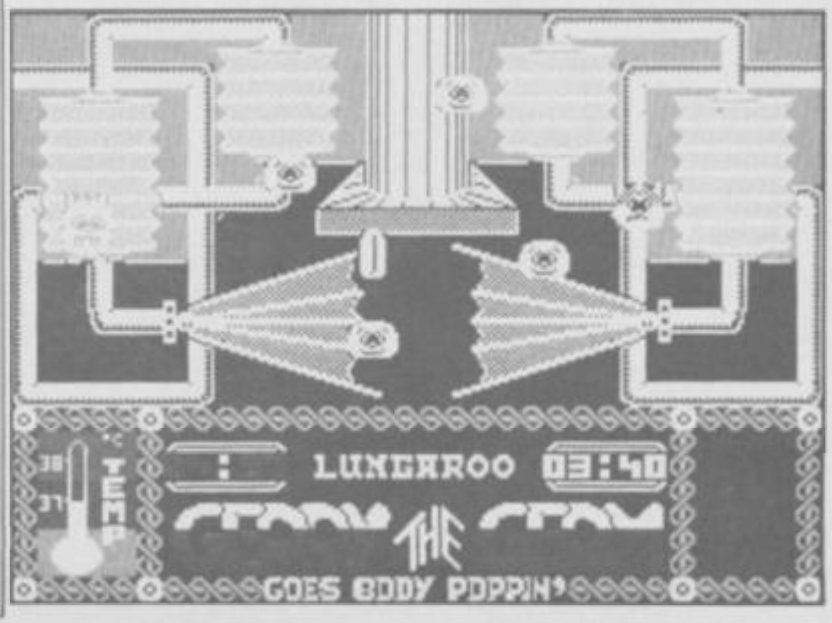
At last, the heart and the quest is almost over for the gallant germ. Gerry must get past heart boxers, arrows, axes, and a spring which will take you back into deep water where your troubles will start again.

The graphics are excellent, the characterisation well done and the plot is almost original. The only problem is that it's unplayable even with a joystick.

Gerry the Germ may be part of Firebird's top range but it's hardly hot — just a little flushed.

John Gilbert

Publisher Firebird
Price £7.95
Memory 48K
Joystick Kempston, programmable
★★★

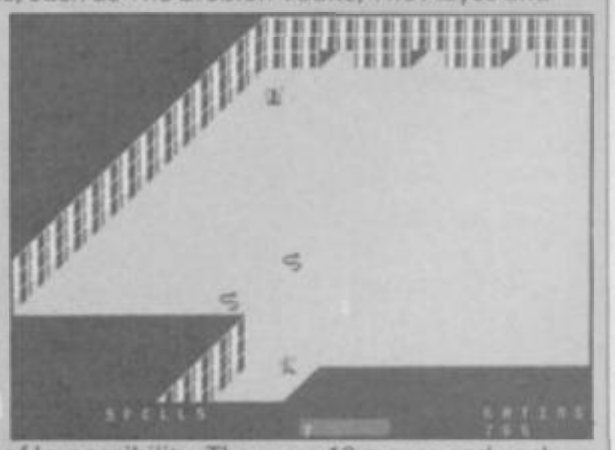


Realm of Impossibility

JUST BECAUSE a game has been a hit on the ol' Commode doesn't mean that the Spectrum version will be any good.

Ariolasoft's latest is a graphic example of how not to convert a best-seller — the graphics are awesome in their awfulness.

There is no plot to speak of, just a collection of mazes with grim sounding titles, such as The Erebian Vaults, The Abyss and



— finally — Realm of Impossibility. There are 13 mazes and each one gets more hazardous with ladders down to the lower levels.

Each dungeon contains a limited range of appallingly animated entities which include zombies, poisonous spiders, rolling balls à la *Raiders of the Lost Ark*, and snakes which look more like sickly worms. All of them are flickering matchsticks.

The monsters are, however, fast and fairly intelligent. Your character's only weapons are a bunch of crosses which he plants in the ground to keep the creepies at bay. He will find a variety of spells, such as 'freeze' and 'confuse', in the labyrinthine corridors of hell, but selection and execution of those is difficult when you also have to dodge the monsters.

Ariolasoft describes the game as an 'action/strategy program.' The only strategy involved is dropping crosses and getting to a key at the limit of each dungeon. Until you get the key you will not be allowed to retrace your steps and exit the maze.

The game can also be played by two players — if you're sure you want to show your friends the embarrassing mistake you bought — and you can both enter the dungeons at the same time. The idea is to help each other rather than compete.

That 'strategy' makes a fairly easy game — even on the final level of difficulty — into a simple game. I managed — admittedly on my own — to get through most of the dungeons, even some of those which were locked — what are keys for after all?

You will need a good hour to get tired of this boring and repetitive game — 50 minutes to get through most of the dungeons but, first of all, 10 minutes at the start rolling on the floor in uncontrollable laughter at the graphics. *John Gilbert*

Publisher Ariolasoft **Price** £7.95 **Memory** 48K
Joystick Kempston, Sinclair
★★

Giddy Game Show

BASED on the Yorkshire Television programme, Mirrorsoft's **Giddy Game Show** is designed to help parents teach very young children to recognise the letters of the alphabet.

The obvious question to be asked in such cases is whether the game does the job better than the traditional picture books on which we have all relied for so long. The answer here is that unless infants are absolutely crazy about the Yorkshire TV characters, the **Giddy Game Show** holds little to stimulate their interest, thus making it hardly worth the considerable trouble of loading the four separate games on the tape — not to mention the equally considerable expense.

SOFT 2 WARE

Game 1 consists of reasonably jolly graphics showing the **Giddy Game Show** heroes Giddy, Gorilla and Gus the Professor, with a variety of objects such as an apple, a balloon or a xylophone, with the name of each underneath highlighting the a, the b or the z.

The objects appear in four groups — Aa-Gy, Hh-Mm, and so on — and each picture in the group is displayed for a second or two before an instruction appears telling the child and its parent to press the space bar to move on to the next picture. When the complete sequence has come to an end, but not before, the child can go back to the menu and choose a new group of letters.

There is no way to alter the sequence of each group of objects, or to speed up their painfully slow appearance and disappearance. Nevertheless, the child is assumed to have sat patiently through the entire sequence, without falling asleep or tipping Ribena onto the carpet, and to have learned the entire alphabet by the end, thus being equipped to play the other games on the tape.

Game 2 is a letter jigsaw, consisting of a grid with a letter — lower case — in the middle, with pieces of the letter scattered round the other squares of the grid. Pressing any key highlights each of the pieces in turn, and a section of the letter in the middle is also highlighted. When the two pieces are the same, the child presses the space bar, and hey *presto, the missing portion of* the letter is inked in.

Once again, the child cannot move round the grid at random, but has to plod round the pieces of the puzzle in strict rotation — a defect from which genuine wooden or cardboard jigsaws are free. Nor is there any way back to the menu until a complete sequence of letters has been filled in.

Game 3 features the Hungry Gorilla and a series of edible objects, displayed six at a time. The name of one of them, say banana, is spelled out at the bottom of the screen. Giddy, travels round the objects, once more in strict rotation, and when he perches above the one whose name is spelled out, the child presses the space bar causing the word to disappear — far too slowly once the initial novelty has worn off — into the gorilla's munching jaws.

The same game can also be played using the cursor keys to select objects at random — an improvement in flexibility, but it is a pity that the instructions don't mention that Giddy must be positioned right on top of the object rather than above it before it can be selected.

Game 4, which refused to load on our review copy, again uses the cursor keys, this time to move Princess Galaxzena round a maze in a happy reversal whereby a damsel has to rescue a king in distress. The maze is littered with objects — most shown in earlier games — and the Princess must avoid landing on objects beginning with the forbidden letters displayed on the screen.

The game is accompanied by a cheerful little booklet, and there is enough colour and sound in it to amuse a child for a while. One fairly serious flaw is the fact that the space bar does not always respond as it should, but what really mars the game is that it treats the child as a passive spectator.

Perhaps computer games should only teach about computers, while teaching to read is best left to books. This game does nothing to prove the contrary. *Nicole Segre*

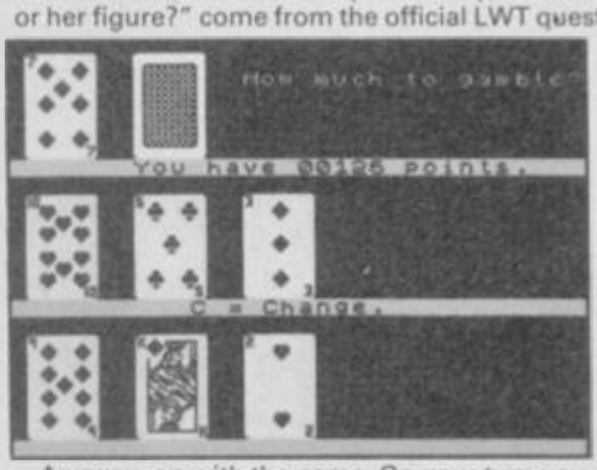
Publisher Mirrorsoft
Price £9.95 **Memory** 48K
★★

Play Your Cards Right

YOUR FIRST sight is of alleged entertainer Bruce Forsyth — host of the TV show — leering out of the screen. Pressing enter to get rid of him starts the game. Choose the number of players — one or two — and enter your names to bring up the first daft question. "100 men were asked: are you afraid of spiders?"

Hang on. Where are the instructions? Not everybody has watched this 'highly successful' TV program. And Britannia Software shouldn't presume otherwise, highly successful or not.

As some of you might know, **Play Your Cards Right** is a gambling game based on guesswork rather than skill. On TV it is played with couples and a great many of the questions are of the husband and wife variety. Revolting posers like "100 married men were asked: which do you usually notice first — a girl's face or her figure?" come from the official LWT question sheets.



SOFT 1 WARE

Anyway, on with the game. On your turn you must decide how many men hate spiders, or how many women have dented their husband's car and lied about it, and enter a figure from one to 99. Your opponent then decides whether that figure should be higher or lower. If she is wrong, you begin gambling.

Five cards are laid face down and the first is then turned over. Yours is the brain-numbing decision as to whether the next card is higher or lower. If the card is a five you can change it, or you may freeze on any card and wait for the next go.

Freezing is the quickest way to win. If you freeze on the fourth card and get the fifth wrong, you won't have to start from the beginning again on your next turn.

The computer answers its questions before you've had time to read the first line, which means that when a question with an alternative crops up you're in the dark. For instance, "100 photographers were asked: would you prefer to work on *Vogue* or *Playgirl*?" You are asked to guess higher or lower with no clue as to which alternative the computer gambled on. Who wants to know anyway?

The game is run on a best-of-three basis. If you manage to gamble successfully on your five cards and reach the end of the line you win. If that happens twice you can go onto yet another tedious gambling game, but this time you bet with points.

There seems to be no end to the game. Higher or lower, higher or lower . . . To think that someone at LWT took the trouble to compile these incredibly stupid questions and find 100 people willing to answer them . . .

It's dreadful. *Clare Edgeley*

Publisher Britannia **Price** £7.95 **Memory** 48K
★

THE Clearance Sale You've Been Waiting For

KLEIN'S
CENTRAL WAREHOUSE
OUTLET

Under ONE giant roof, hundreds of nationally advertised Household Appliances.

NEW SAMPLES

Vacuum Cleaners
Salesmen's samples
all makes from $5.95

Washers & Ironers
New family size only $19

ABC Spinner.
Sensational at only $35

Oil heaters
– free installation – from $30

Odds and Ends. Famous makes.

Free delivery.
No finance company to deal with

300 N Madison Rd. Wabash 5148

OPEN SUNDAY

Buy direct Factory samples
Bedroom sets ..... $29 up
Parlor sets ..... $19-$39 up
Trade-in & repossessed furniture available.

Schwarz & Co 4077 Cottage Rd W.

CHEV '39 Sedan $400
Trunk, heater, vacuum gear shift, bumper guards, original fin. Priced far below market. Private

Krueger Humboldt 9226

CODE numbers needed for Wheelie player. Reply Box 63980

St. Louis $4.75 Detroit $5 Ft. Wayne $3 Columbus $6

De Luxe Motor Stages
230 Milwaukee N W Lake Central 3131

Will exchange dental work for used car.
J F Ball Drexel 4113

ALL AMERICAN BUS
TRAVEL CO.

Free pillows Free meals

Los Angeles	$30 o/w	$54 r/t
S Francisco	$32.50 o/w	$60 r/t
Miami	$15 o/w	$25 r/t
Atlanta	$10 o/w	$14.50 r/t

LOWEST ROUND TRIP FARES IN THE STATE.

SPECIAL SALE

Now – from only $29.50
New, de luxe, water heaters.
kerosene; gas
217 W Washington Av. Franklin 1300

Not responsible for debts except those contracted by myself.
J Schaeffer 3351 Washington

BARGAIN!

Fluffy Pork Pie Sport Felts.
Regular $1.49 Values. The all purpose casual felt in Black, Brown, Soldier, Wine, Red, Kelly, Beige.
Four head sizes 21⅛-23. Now ONLY 84c

Lg rooms, new furniture, priv. bath, tub & shower.
200 N Oak – Sheridan Rd Sheridan 8641

5000 SINCLAIR C5s. for sale.
Going cheap. Batteries not included.
Victory 2210

AUTO LOANS

CASH IN TEN MINUTES ON YOUR AUTO OR TRUCK
20 MONTHS TO PAY

Deal direct with owners.
Private consultation rooms.

HIRSCH-DAVIS
20 years in the same location

6213 W STALLWORTH ST Harrison 2217

VISIT Paula's Puppyland – Air Conditioned. All pop. breeds. 100s to pick from.
Low prices 6162 N Harlem Av.

STENOGRAPHERS

Complete secretarial courses. Learn by actual work on switchboards.
Free catalog.
Also 'Brush up your Comptometer'
'Complete X-ray Course'

AMERICAN BUS. COLLEGE
20 E Michigan

Would anyone having knowledge of the whereabouts of Joe 'Pug Nose' Morelli please tell his mum cos his tea's ready.

WALTZ, fox trot, rhumba. Private lessons. 7 for $5. No appt. nec.
Rm. 21 316 N Clarkson Wkdays 10-5

ALLIED BEAUTY ACADEMY
32 E LAKE ST

MANICURING COURSE $17.50
Jobs waiting. Learn in 3 weeks.
Includes tools, diploma. Placement service

CONFIDENTIAL ENQUIRIES UNDERTAKEN

Contact Sam Cruise. Fairfax 7337

PENTHOUSE – living room + kitchenette; 2 bedrooms & private roof garden. Combination tub & shower, circulating ice water. Complete service.

At an address of distinction.
35 W Delaware Franklin 3911

Sinclair C5 Sedan. 4 door.
Fully air conditioned. Running boards extra. This car will pass for new. Any colour you like, as long as it's white
Reply Box 63980

WINTER COAT SALE!

Hood coats, wrap arounds, warm fleeces, heavily interlined, coats with lined snow pants to match. Sizes 12-20
From $14.98. Value $25

EMERSON COAT CO.
2342 W CENTRAL AV.

$1,000,000

in diamonds WANTED!

The Very Highest Prices will be paid
*We also purchase Old Gold &
Pawn Tickets*

YOU RECEIVE CASH IMMEDIATELY

US Diamond Syndicate, 35 N Pulaski Rd.

Fashionable conveniently located. Excellent cuisine. Attractive monthly rates. Every room with private bath. Coffee shop. Barber & beauty shop.
4100 La Salle Nth. Fairfax 6265

CASABLANCA nite-spot needs pianists.
Apply Rick. Box 63980

1290 PINE GROVE PLAZA Modern de luxe 6-7 rm apts. Newly decorated. Electric elevator. Lg. closets, v. lite

ARTIFICIAL leg – Man's; left; size 7½-8. Airplane metal, lightweight.
Delaware 7173

PART share in 1938 Cub $45. Fly solo $1.50 Dual $3.50
Evenings. Oak Lawn 1904

FOR SALE. 20 Left shoes, size 7½-8.
Going cheap. Offers Delaware 7173

LABORATORY equipment for sale – chemicals, scales etc. Perf. cond.
Calumet 2071

4 yr old saddle horse. Well mannered. Sacrifice. Quick sale. Offers.
Mr Edge. Oak Park 1397

TEETH lost – partial plate.
W 79th St. Reward Wellington 2354

DRIVING to Denver, Cheyenne via Oklahoma shortly. Take 2 share expenses.
Kedsie 4031

Gas driven calculators; adding machines; cash registers & ZX81s. No reasonable offers refused.
Mikes Second Hand Bargains.
15 Grand Av (nr Plaza)

OLDSMOBILE '38 Del. Trk. Sed. $550
4 door model. Heater, very clean.
$45 down.
Mayerling Motors 6800 24th & Michigan

SALESMAN – 44. Aggressive. Seeks good side-line to work into full-time prop.
Have car Anderson, Irving 4519

WOODLAWN 1362 – 2 rms. Pri. entrance. Newly furn. & decor. Frigidaire.
Gas incl. $3-$6

Quick drying cement supplied.
No questions asked. Apply Box 1342

Yng hi-sch grad. desires off. wk or reception. Hollycourt 7373

STUDEBAKER
1940 President Sedan.

Gleaming grape-tone maroon finish. Equipment includes radio, climatizer etc. Exceptionally low mileage. Like new $895
2435 W WABASH Independence 3310

City Officials bought and sold Box 2217

INDIGESTION
MAY AFFECT THE HEART

At the first sign of distress, smart men and women depend on
CHESTER'S PATENT REMEDY

made of fastest acting medicine for acid indigestion. If the first dose doesn't prove CHESTER'S best, return bottle to us and receive DOUBLE money back. 25c

ring for furniture. Ashore 3727

New & used violins & cases. Bargain prices. Telescopic sights optional.
423 S Clark Blvd. Open eves.

PACKARD '40 deluxe Sedan $750
Used 5 mths. 4dr trunk. Radio & heater.
Liversey Lakeview 3074

Beauty Operators Trained at
DE VERE UNIVERSITY

are in the State's leading salons. We take pride in their success. Rates, terms catalog on request. No obligation.

Day/evening classes

De VERE 50 E RANDOLPH BLVD.
7th Floor

BLACKSTON PK 3125 – 1/2/3 rm kits well furn. newly dec. $3.75-$5 up

HAYLEY, I luv u. Eric. xxxxx
P.S. Will you help me with my lines
Reply Box 63980

Ellis 4535 – 2 rm basement apt. Kit. elec frig. Free gas $5-$9

LAUNDRESS. Good shirt ironer. Cleaning. Fast worker. Triangle 4200

Can't get across river in Omnicalc? You need the Extension Kit.
Reply Box 63980

Mens Vests $1.98 Corduroys French backs; moleskin fabrics. Dark colours, all excellently tailored & strongly reinforced for real wear. Sizes 30-42
No Mail or Phone orders – none delivered.

DACRE'S BARGAIN BASEMENT
139 N CLARK ST

PAINT, paper. $3 up per rm incl. paper. Baths enamelled. Plaster; patch.
Independence 7668

1500 used theater seats. Also theater organ. Baldwin baby gr. piano. Cheap.
Schoenstedt. Archer 2554

CATAPULT required for Skooldaze player
Reply Box 63980

9 x 12ft. Mothproof Rug Pads. Offers around $1.95
14 E Jackson Evenings only

Doll baby – please write me at mothers.
Joe is sick Sweetie Pie.

Cadillacs lengthened to your requirements. $200 per yard.

SLOPERS METALWORKS
EARLSWOOD ALLEY
(back of Joe's Drug Store)

FULLY FASHIONED RAYON OUTSIZE HOSE

All well reinforced, knit to fit, with stretch tops, Irregulars of 39c value.
5 pairs $1. Sizes 9 to 11

THRIFTFOOD MART

Diced fruits – per lb	27c
Sugar peas, sifted. 6 cans	65c
Tea balls – 100 to box	75c
Premium hams – per lb	19c
Cane sugar, pure grain – 25lb	$1.15

32 S LA SALLE ST. 9 – 9

PAWNBROKER clerk, jeweller – Al salesman. Alert, live-wire; draft exempt; 8 yrs exp. Columbus 6823

FOR AIRPLANE & STEAMSHIP TICKETS, SEE:
WHITWORTH & RAYMONDS TRAVEL
211 W WASHINGTON BLVD

ELLIS 2329 – Attr. 3-4 rm apts with kitchenette. Priv. bath. Comfort furn. $7 up

C&M [illegible] Reply Box 63980

FOR SALE
GROVER HAS THE TRUCKS

Save on price Gain on quality
Reconditioned used trucks. Safety laser inspected.

New from
MICROSPHERE
48K Spectrum £6.95
MICROSPHERE
72 ROSEBERY ROAD LONDON N10 2LA
CONTACT SAM CRUISE

We'll take you beyond the Spectrum.

Four great new add-ons from Ram, Number One in everything for the Spectrum...

TURBO INTERFACE – NEW LOW PRICE

Outperforms any other Spectrum interface. Supports Kempston, Protek, Interface 2 and ROM cartridge software, with a full expansion bus at the rear. The Turbo works with two standard joysticks, making the most of the Quickshot II's fast action. Features a unique power safety device and a new Reset button. Even more amazing value at just £18.50

QUICKSHOT II AUTO RAPID-FIRE JOYSTICK

The top games joystick with its sleek trigger fire button and an auto-fire switch for continuous shooting – a snip at only £9.95.

SPECTRUM INTERFACE

This Kempston-compatible interface adds real games power to your Spectrum. Costs just £9.95.

SPECTRUM UPGRADE KIT

Boost your 16K Spectrum to a full 48K, allowing you to run all the latest and greatest software. Only £21.95

Where can you get your hands on Ram's amazing Spectrum add-ons? You can see them at branches of Boots, Menzies, Greens, Spectrum Group computer centres, and good computer stores everywhere.

Ram Electronics (Fleet) Ltd (Dept SU), Unit 8, Redfields Industrial Park, Redfield Lane, Church Crookham, Aldershot, Hants GU13 0RE.
Credit Card hot line: *Tel: 0252 850085. (Access & Visa).*

Please send me ____ Spectrum Turbo Interface(s) at £18.50
____ Quickshot II Joystick(s) at £9.95.
____ Spectrum Interface(s) at £9.95.
____ Spectrum Upgrade Kit(s) at £21.95.
(Please state issue 2 ☐ or 3 ☐)

+£1 per order P+P (£3 Overseas) **TOTAL £**

☐ I enclose cheque/postal order ☐ charge my Access/Visa

Expiry Date____/____/____

Name

Address

Postcode

Telephone

24 Hour despatch for credit cards and postal orders (7 days for cheques.) All products are fully compatible with the Spectrum, Spectrum + and Sinclair Microdrives.

Ram Electronics (Fleet) Ltd (Dept SU), Unit 8, Redfields Industrial Park, Redfield Lane, Church Crookham, Aldershot, Hants GU13 0RE.

Trade and Export enquiries welcome.

RAM

Clive discovers games — at last

THE SPECTRUM 128 launch was made memorable by a much reformed Sinclair Research, determined to impress sceptical journalists and not so sceptical members of the trade.

The stage of the Mayfair Hotel's Crystal Rooms was bedecked in the black and red livery Sinclair has adopted for the packaging of its new machine. Was Sinclair expecting blood to be spilled?

Sir Clive's opening speech, and the press information distributed to the audience, emphasized the change in direction taken by the company, which has finally accepted the importance of the games industry. "We have focused the 128 on the entertainment sector," chief executive Bill Jeffrey is quoted as saying. "Recent market research has shown us that entertainment is easily the most common use of computers in the home." Congratulations, lads, welcome to the real world.

Initial response was "unprecedented", with £8 million worth of orders already received for the machine, which is priced surprisingly high at £179.95. That makes it only £20 less than the QL. Wouldn't that confuse buyers? "We see the QL as being in a different market," said Charles Cotton.

Criticisms, however, have been made about the launch price, fuelling speculation that the price of the Spectrum Plus might plummet — which Clive was quick to counter.

The QL was referred to again when Clive was asked whether he had changed his mind about the 68000 chip being the "architecture of the future and the technology on which all future Sinclair products would be based", a statement made at the QL launch in 1984. "Yes," admitted Clive, "I have."

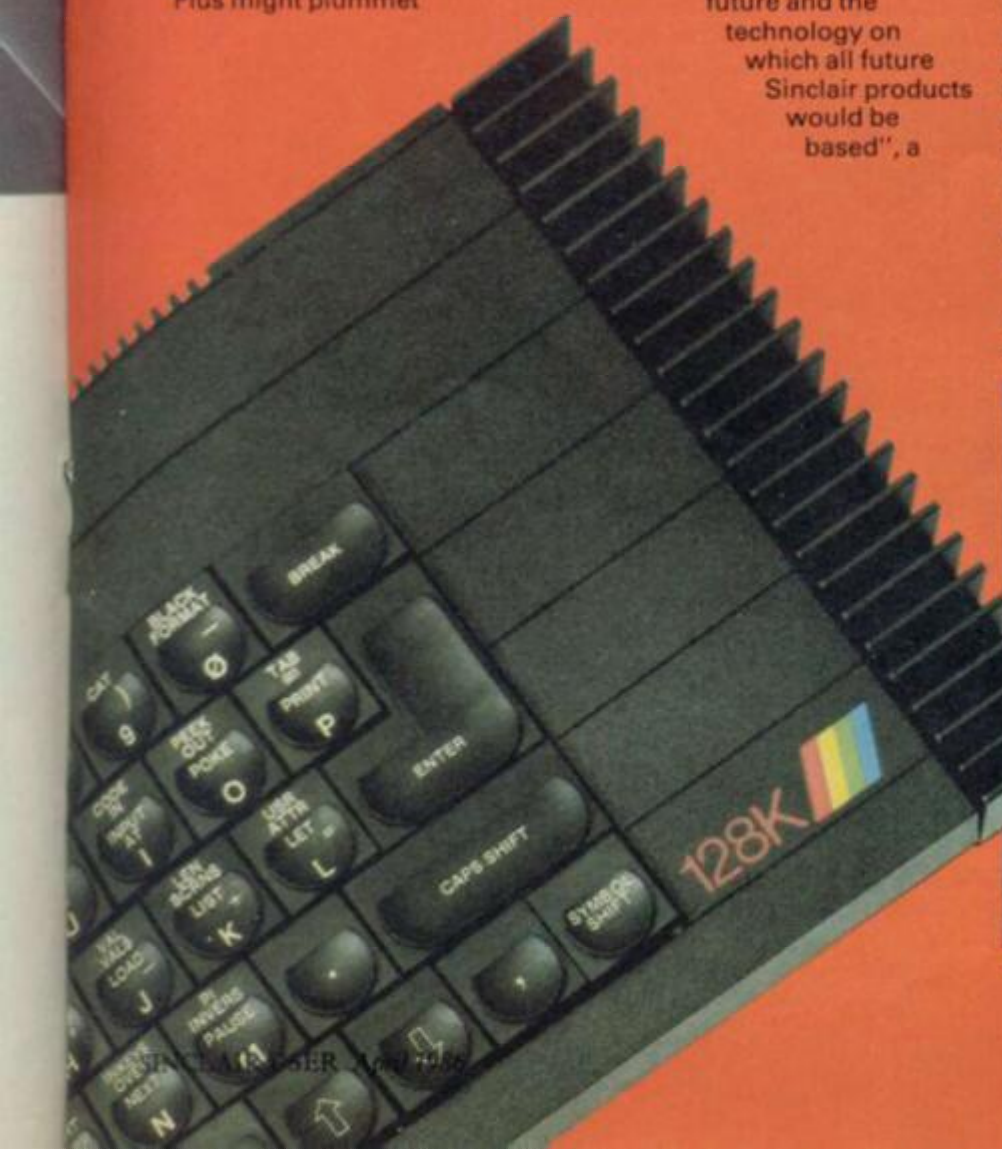
Alison McGuire, marketing manager, with the aid of research done by AGB, showed that the games market is increasing while the education and business markets are on the decrease. She also said there had been an increase in the number of families who own more than one computer or who have upgraded. "The 128 is an upgrade machine as well as being a beginners' machine," she said.

There seemed to be some confusion over the software compatibility of the new machine. Clive stated that "it runs all old software" but later Jeremy Brown, product manager, qualified that by saying "all 48K software designed in accordance with our published guidelines". It has already been discovered that Firebird's **Elite** is incompatible, despite its inclusion in the 128 software catalogue.

Clive again seemed out of touch when he stated that all software mentioned in that catalogue had been developed specially for the new machine. In fact only 33 of the 76 titles have been designed specificially and only nine of those have never been seen before in other guises.

As you will see from the reviews of the 128 games in the following pages, the products are by and large disappointing. A few have extra locations but most have only rewritten sound routines. Hardly software "quite unlike anything seen before" as Clive had put it, grandly, in his opening speech.

The commitment to the games market is not apparent in the design specification of the 128. It does not have joystick interfaces and there is no sprite capacity — although dot crawl has been eliminated.



Sir Clive: changing direction.

> **"Recent market research has shown us that entertainment is easily the most common use of computers in the home"**
> *Bill Jeffrey*

The limp explanation for the absence of joystick ports came from Jeremy Brown: "There are lots of different joystick standards and we didn't want to come down on the side of one, say Kempston, while excluding the others. We did consider putting a programmable interface in the 128 but our research showed that it would be too expensive."

That is a strange attitude to adopt with a games machine. Kempston is an unofficial industry standard and nearly all games with a joystick menu include the Kempston option.

The success of the machine will be decided by the public. They will want to see new software which stretches the 128 to its limits. From what we've seen so far things can only get better.

Our Kempston Mouse is *THE BUSINESS*

We are proud to announce the launch of our Spectrum Mouse and Interface complete with the highly successful OCP Art Studio.

Mouse Interface

THE HARDWARE

The Mouse, which has two independent trigger buttons, uses an optical system to decode movements of an internal tracker ball. These movements are precisely monitored by the Interface, a simple port read revealing the exact X and Y coordinates at any instant.

THE SOFTWARE

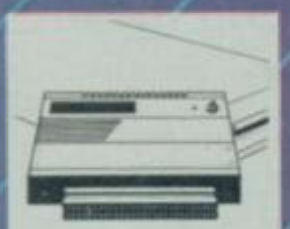
The OCP Art Studio is a Spectrum graphics package that is fun and easy to use.

It allows you to – create an image, shrink it, expand it, move it, rotate it, copy it, spray on a pattern or shade. Make elastic lines, triangles, rectangles, circles – stretch and manipulate, add text or characters, up, down, sideways – any size or proportion, zoom in to draw in fine detail, shrink the whole picture to add background.

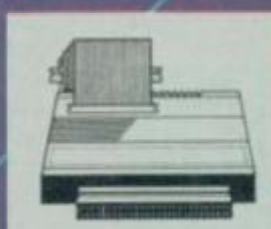
Just Look at these features!

Pull down menus, Icon driven, keyboard, joystick, mouse control, Dot matrix printer dumps, 5 sizes and grey scale – up to 80 columns, Supports Centronics 'E' Interface and others, 16 pens, 8 sprays and 16 brushes, 32 user-redefinable texture fills, Wash texture, Undo facility, Snap facility, Pixel edit, Cut, paste, turn, enlarge, reduce, Magnify (3 levels) pan and zoom, Text, 9 sizes, 2 directions, bold, Font editor with invert, rotate flip, clear, capture from window, Elastic line, triangle, rectangle.

The protocol utilised in the Kempston Mouse Interface is destined to come the industry standard to follow the success of Kempston Joysticks, Kempston Centronics 'E' and Kempston Disc Drive products.

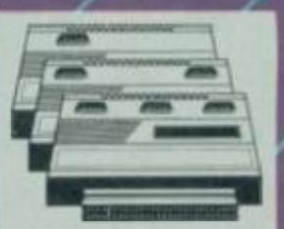


KDOS Disk System



Centronics 'E'

Competition Pro Joystick



Joystick Tri-State and Pro Joystick Interfaces.

Lightning Joystick

ORDER FORM

Fast Mail Order Service. Please send me the following:

- ☐ Kempston Mouse System (Kempston Mouse and Interface + OCP Art Studio) 69.95
- ☐ Kempston Disc System (KDOS Disc Interface + 3.5" Sinclair Disc Drive) 189.95
- ☐ Kempston Centronics E Interface 39.95
- ☐ Competition Pro Joystick 16.95
- ☐ Lightning Joystick 8.95
- ☐ Kempston Joystick Interface 9.95
- ☐ Kempston Tri-state Joystick Interface 12.95
- ☐ Kempston Pro Joystick Interface 16.95

SPECIAL COMBINATION OFFERS

- ☐ Competition Pro Joystick and Joystick Interface 19.95
- ☐ Lightning Joystick and Joystick Interface 15.95

All prices inc VAT, p&p. (Overseas add £4). Make cheque/P.O. to KEMPSTON MICRO SALES.

I enclose a cheque/P.O. for .....

Name .....

Address .....

.....

Signature .....

Please charge my access/visa no

☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐

Kempston Micro Sales, 1-3 Singer Way, Kempston, Bedford MK42 7AW. Tel. 0234 856633. Telex 826078 KEMP MI G

Daley's Supertest

128 Software

THE WORLD-FAMOUS T-shirt enthusiast is back again in a repeat showing of some of his favourite events, in the 128 version of **Daley Thompson's Supertest**. Twelve separate events are included, four from Daley's Decathlon and all eight from the sequel, the 48K Supertest.

The full list of simulated sports is: rowing, penalties, ski-jump, tug of war, triple jump, 100m spring, javelin, 110 hurdles, pistol shoot, cycling, spring board diving, and giant slalom.

The game takes an enormous time to load, but all the events go in at once, so you don't have to mess about playing four or five at a time — though you still only get three lives for the whole lot. That makes things a good bit more difficult.

For those who are not yet aware of such novel concepts as joystick fatigue, there are two basic techniques involved in playing these games. Smashing the joystick left and right at high speed builds up power, speed, energy or whatever, and pushing the fire button at just the right moment for the correct length of time will allow you to hit targets, jump, throw things at the correct angle and so on.

The game opens with a dramatic rendition of the theme tune from *Chariots of Fire* to put you in the mood. Short bursts of alleged music link the various sports and new sounds have been put into some of the events for firing pistols.

The eight Supertest events look very much the same as the original events, but the four from Daley's Decathlon have been juiced up to a similar standard of graphics. The old flickery Daley is now much more solid and the backgrounds are more pleasantly coloured.

This sort of compilation program, while it offers nothing of any great novelty, makes sense on the 128. It is a distinct advantage to be able to play all the events on a single load.

Our rating is not, of course, based on value for money as Supertest is free with the Spectrum 128, at least for the time being.

In the meantime, it's a good addictive game for new users to get into quickly and will obviously have a wide appeal.

Chris Bourne

Publisher Ocean
Price Free with 128K Spectrum
Memory 128K
Joystick Kempston, cursor, Sinclair
★★★★

THE FOLLOWING pages show a selection of games for the Spectrum 128 and include* Daley Thompson's Supertest *and* NeverEnding Story *which come free with the machine.

NeverEnding Story

SOME OF THE BEST music I've ever heard on the 128 characterises Ocean's remake of **The NeverEnding Story**, which was originally launched just before Christmas as a three-part adventure game.

The storyline follows that of the film, rather than Michael Ende's original tale. You play Atreyu, a young boy who must find the saviour of his land, Fantasia, threatened by the Nothing which consumes it. Various quaintly-named characters are there to help or hinder-Falkor the luckdragon, Morla the ancient tortoise, or the gnomes Engywook and Urgll. Gmork, the evil werewolf, will be hot on your tracks the whole time, so you have to move quickly.

There's not really much I can say about **NeverEnding Story** as far as the game goes which hasn't already been said by our own Richard Price, who reviewed the original Spectrum version in the January issue. The 128 version is simply the three parts of that strung together in one almighty saga which, if you don't mind the fairy-tale elements, is thoroughly enjoyable and quite demanding.

The main addition is the music, and that consists of an excellent and lengthy version of the theme tune from the film. Ocean has executed it well, using a fade-out at the end, and you can have it running continuously as you play if you like, and just turn down the volume on the TV if it gets too irritating.

The graphics are just the same, and very good too. A split screen format has attractive pictures at the top, with pictures of the objects you are carrying or people with you superimposed. I was a little irritated by the way the program treats people and animals as objects to be 'got', but it does make the vocabulary simpler when you get the hang of it.

The 128 is an ideal machine for really big adventures with lots of illustrations, and it shouldn't take those software houses with good adventure writing systems — one thinks of Level 9 — long to adapt to the new machine, with good original quests that take up all the available space.

NeverEnding Story must come close to filling up the memory, and is a good choice for inclusion as one of the games given away with the machine.

Chris Bourne

Publisher Ocean
Price Free with 128K Spectrum
Memory 128K
★★★★

Lode Runner

OK, SO Software Projects only had a few months to come up with a 128 title but why pick **Lode Runner**? And why make so few alterations?

When I'd loaded the game I expected a melodious tune to waft from the television speaker and hundreds of very different rooms in this levels and ladders game. Instead the only sounds are bleeps and squeaks — admittedly using the 128's three-voice capability — and 150 rooms full of red brick, yellow ladders and gold blocks.

For those of you who don't know how to play — the plot is four-years old — here's the story. You are a highly trained Galactic commando who has ventured into enemy territory. You are after the gold which the power-hungry leaders of a repressive Empire have stolen.

The only way you can stop the magenta monsters is by drilling a hole in the ground. Then you can stamp on their heads using them as bridges over those holes.

Once you've cleared the gold bricks from one level a ladder extends off the screen and you can escape to the next. The final screen is the most artistic, though it is the easiest to complete. You'll probably never get there, however, unless you use the screen editing facilities.

The screen editor allows you to change and produce user-defined screens and save them to tape. The game can be made easier or more difficult, depending on the ladder and level system you set up.

It is also possible to try the new set ups you have made by going into the editor menu and typing in the number of the screen you want.

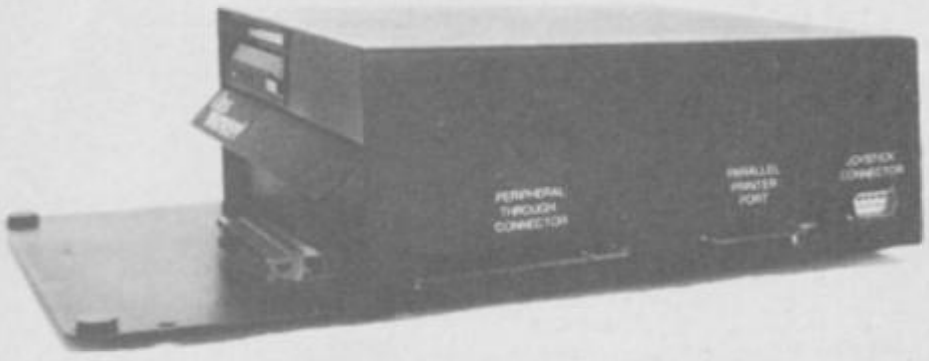
The only reason for bringing out this 128 game is to be included in the list of companies with products available for the machine. There is no music in the game and only minimal sound effects — which occur if you are killed by an alien or if you pick up a gold brick.

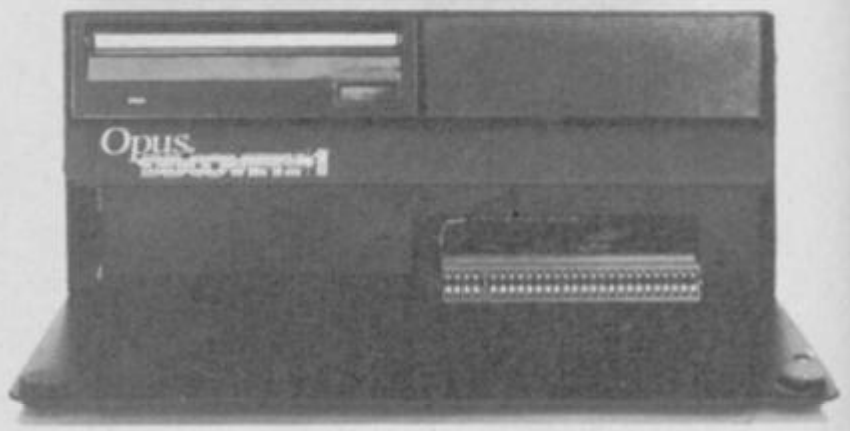
If you forget about the abysmal plot, substandard graphics, lack of music and predictability of each screen you could say that the game is addictive. Yes, you could, but I'm not.

John Gilbert

Publisher Software Projects
Price £9.95
Memory 128K
Joystick Kempston
★★★

IT'S A DISCOVERY FROM ALL ANGLES





A FEATURE-PACKED SYSTEM FOR JUST £149.95 INCLUDING:

- 3.5" 250 K disc drive
- Double density disc interface
- Parallel printer interface
- Joystick interface
- Video monitor interface
- Peripheral through connector
- Built-in power supply
- Utilities on ROM including format and verify
- RAM disc facility
- Random access files fully supported
- Connections for second drive upgrade
- Comprehensive user manual

Whichever way you look at it, Discovery – the multi-feature Spectrum disc drive system from Opus – is a lot of hardware for your money, especially now we've made it even more affordable.

At an incredibly low **£149.95** it explodes the myth that you can't buy a full-blooded Spectrum disc drive for under £200. In fact to beat our price you might have to settle for a non industry-standard system – microdrive, waferdrive or even a 2.8" disc drive lookalike. Hardly worthwhile perhaps when for very little more Discovery offers not just an industry-standard 3½" 250 K disc drive but all these amazing features:

- **DOUBLE DENSITY DISC INTERFACE**
- **JOYSTICK INTERFACE**
- **PARALLEL PRINTER INTERFACE**
- **COMPOSITE VIDEO MONITOR INTERFACE**
- **BUILT-IN POWER SUPPLY FOR DISCOVERY AND SPECTRUM**
- **PERIPHERAL THROUGH CONNECTOR**
- **RAM DISC FACILITY**
- **SIMPLE ONE POINT CONNECTION TO THE SPECTRUM**

ONLY £149.95

Discovery takes no USER RAM from the Spectrum. Random Access Files are fully supported and formatting and back-up routines are included in ROM. You can also choose from a wide selection of 3½" disc software specially written for the Discovery games and business user.

Discovery's price of only **£149.95** even includes VAT, free delivery and a full 12-month warranty.

As you can see Discovery is much, much more than just a simple disc drive and it's available from all good computer stores nationwide. Call **0737-65080** for details of your nearest dealer or to order your Discovery direct.

Opus Supplies Ltd,
55 Ormside Way,
Holmethorpe Industrial Estate,
Redhill, SURREY RH1 2LW.

Opus.

NOW! DISCOVERY for the 128 Spectrum ☎ (0737) 65080 for details

Gladiator

BREAD AND CIRCUSES. We who are about to die salute you. Domark's recreation of the bloody duels in the arena of Rome has been completely reworked for the 128K Spectrum. It's one of the few games which has not only been improved by the addition of extra material but has also sought to remedy faults in the original program. That is very much to Domark's credit, and an intelligent way to make use of the opportunities the Spectrum 128 offers for upgraded software.

SOFT 5 WARE

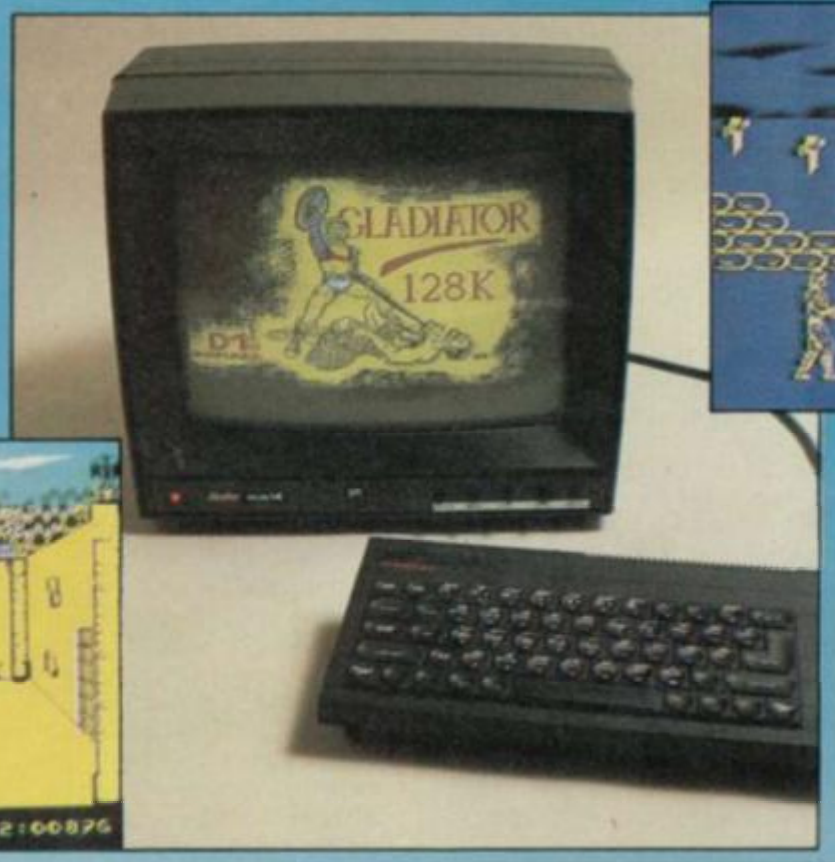
The original game was a very complex fighting program on the lines of **International Karate** or **Fighting Warrior** — we reviewed it in the January issue. One problem then was far too many moves on the joystick, some of which required pressing the fire button twice accompanied by the appropriate joystick position — that often led to throwing a weapon when instead you wanted to perform some devastating attack.

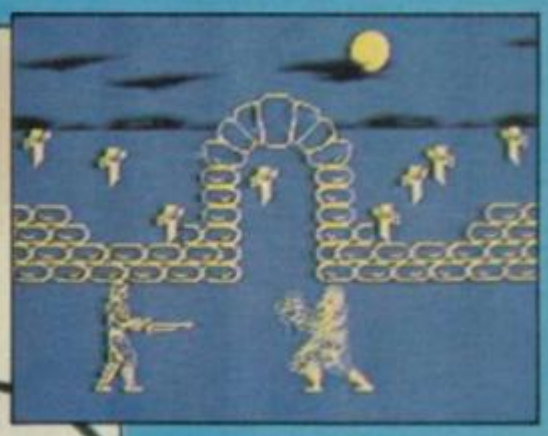
The new version actually scales down the movement options to a straight 16, one set with the fire button held down and one set without. It's now a much easier and faster game to play, without sacrificing any of the variety of skill involved.

Other additions include a rather out-of-place, but well-executed, circus theme at the beginning and fanfares when the gladiators march out from their caged enclosures at the beginning of each bout, as well as a whole set of extra screens for different bouts. The initial arena screen is the same, but after that there comes a moonlit duel by a Roman graveyard and a new arena with stands of what seem to be wineskins by the side.

The gladiators, superbly animated, now look different. You are the one with the fair hair and the clean-cut look. Your opponent has dark hair and probably hasn't washed since 54BC.

With 45 weapons to choose from, each with different attack and defence capabilities, **Gladiator** is probably the most monstrously bloodthirsty fighting game of them all.





Prepare yourselves for the *contest of all time then — grind* those blades and mend the weighted nets.

Morituri te salutamus.
Panem et circenses.

Chris Bourne

Publisher Domark
Price £9.95
Memory 128K
Joystick Sinclair, Kempston
★★★★★

Technician Ted

TED HAS BEEN given a much easier job than the one in the 48K version of this game, but there's much more work to be done.

The game is twice the size of the original, with 100 rooms in the factory and 30 tasks to perform. Unlike the original game, in which you had to guess which tasks to perform, each of the jobs is numbered.

That does not make their performance any easier, though. Some, like the one waiting in Ted's Den, are split into two and you have to find out which part should be performed first. Others are hidden behind objects, such as rampant C5s over which you must jump at the right time.

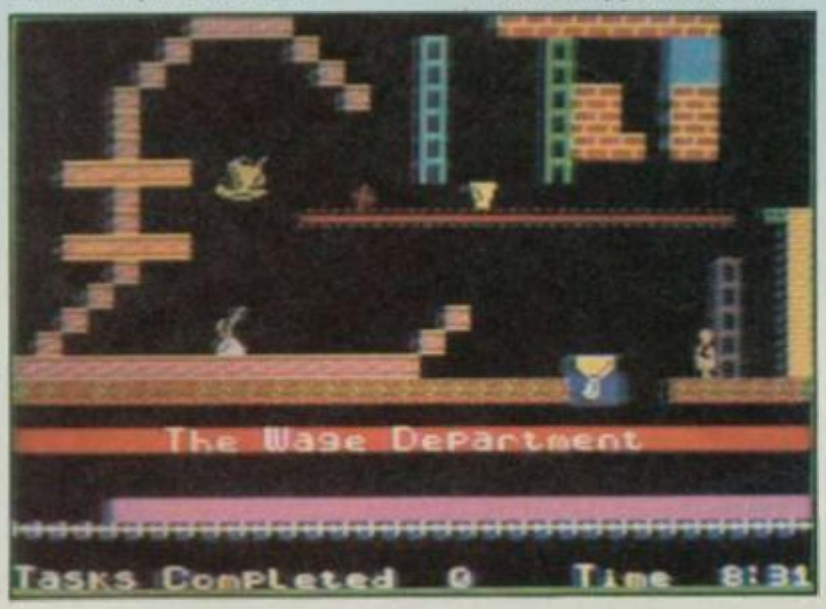
Some of the new screens have been created with current affairs — well almost — taken into account. There's the C5 production line which never breaks down but constantly runs over its hapless work force, and the Sinclair Research factory.

The cloth-capped hero also has to put up with the brothers on the picket line who have the help of an Arthur Scargill lookalike. Scargill's face pops up in nearly every screen blocking the way for Ted. He will have to jump over him and sometimes sneak under him.

The interactive graphics are slightly better than those in the original game. You do not lose a life unless you score a direct hit on an obstacle.

Hewson has put the cutest sound track and effects in the package and those can be played throughout the game. Effects and music are controlled separately on the main menu before the game begins and you can have one set on without the other.

The music at the beginning of the game, Tchaikovsky at his raunchiest, uses only two of the three 128 voices but, nonetheless, adds a carnival atmosphere to the game. The tunes may be slightly off key but I have a feeling that the notes were made to droop to make the game more amusing.



SOFT 5 WARE

The Mega-Mix is not just another 128 revamped con job. The authors, Steve Marsden and David Cooke, have made the game more playable for beginners and a viable buy for those people who have the 48K version. It's not a total re-write but gameplay is different and the new locations make you forget that you are playing a game which has been around for over a year. *John Gilbert*

Publisher Hewson
Price £7.95 **Memory** 128K
Joystick Kempston
★★★★★

Knight Tyme

MASSIVE MAPS . . . over-populated galaxies . . . high-resolution full-screen graphics . . . wit, humour, room to laugh . . . that's the sort of thing I was expecting software houses to produce for the 128.

But so far there's only one company that's written a game specifically for the new machine, and it will probably amaze you to learn it's that much-maligned home of the budget quickie, Mastertronic.

While everybody else has been busy upgrading old games by bunging in a few more rooms and a couple of snatches of tasty music, Mastertronic has quietly been working on a genuine 128 game at the astounding price of £2.99 — not a penny more than anything else in its MAD range but considerably bigger and much more spectacular.

Knight Tyme is the sequel to **Spellbound** and **Finders Keepers**, both by top Mastertronic programmer David Jones. His new, equally eccentric game is a vast odyssey through space in the company of 16 other characters to find the guardians of time and persuade them to let you through the black hole which takes you back through the centuries. Why do you want to do this? Because it's there . . .

Knight Tyme hasn't been finished yet, but I travelled into the wilds of Tronic land — two stops on the tube from *El Pueblo Sinclair User* — to graciously allow David and his well-heeled bosses to demonstrate the game. After the usual exchange of pleasantries concerning **Action Biker** the well-bossed heels disappeared and David got on with it.

Knight Tyme is an animated adventure, to coin an obvious phrase. It's not really an arcade adventure, in that you need only use the joystick to position yourself next to the right character or over the right object. On the other hand, the mental agility required to interpret the various problems is considerable.

There are a number of menus which can be accessed when you're not moving around the ship, which allow you to pick up, drop, wear, take off, read, examine and generally muck about with objects, characters and your environment. Those menus will also offer more specific options at appropriate times, such as moving the starship or using transporters to travel to the planet's surface.

What starship? Right. You start the game on the *USS Pisces*, floating somewhere around the 25th Century on an ostensibly peaceful trading mission. You're trying to return to your own time, but the first thing to do is to get equipped. There are two types of characters involved — droids and real people. Droids will always obey you to the best of their ability, but people may ignore you if you are not sufficiently attractive to them.

Let's follow the Magic Knight — you — through the first few stages of the game. He starts off in the Transputer room with a selection of peculiar objects. The white gold ring is a magic item, courtesy of Stephen Donalson's Covenant Trilogy — David's not afeared of mixing magic and science fiction if he wants. "When you meet the Time Guardians you'll have to prove your skill at magic anyway," he says.

Other objects include an invisibility cloak which can get you past some problems but will make it difficult for characters to understand you, since they can't see you, and an McTablet of concentrated food. There's also an advert which is otherwise useless but if read produces the first of the flipscreens programmed into the game, a panel of Mastertronic self-admiration. These screens are stored in the voluminous 128K memory like standard SCREEN$ and then flipped into the display file whenever you like. In fact, there are particular memory banks within the 128 which can be directly swapped with the screen display in order to instantly reproduce pictures, but David says he didn't use that method for his screens.

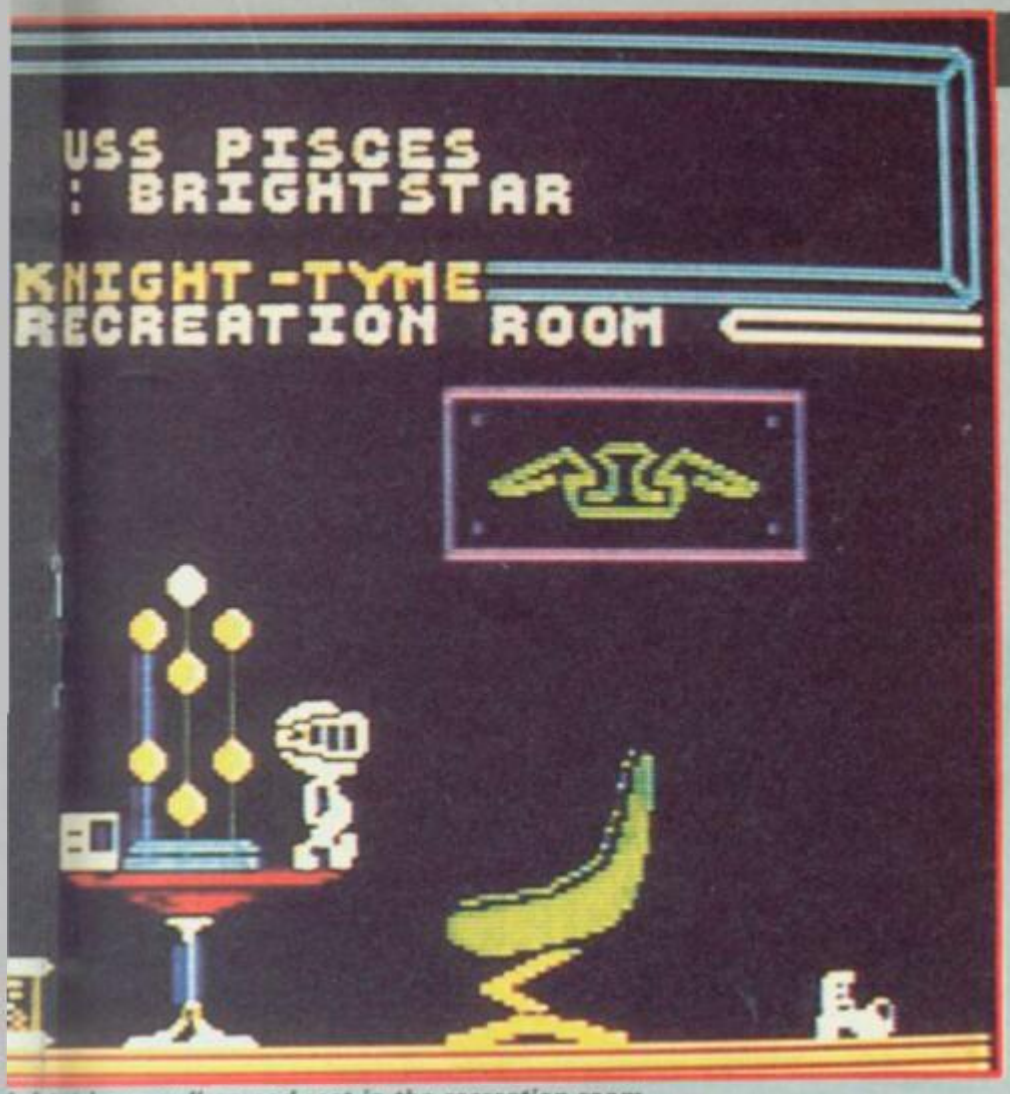
Although the advert is a bit of a show-off, there are other pictures hidden away in the program which will be of more immediate relevance. Given the size of the memory, it's quite feasible to fill up spare space with lots of such pictures without damaging the quality of the game — luxury to programmers who in the past have always had to choose between good games or good graphics.

We wander around the spaceship for a bit. There's an armoury, a control room, various holds and several droids sitting around waiting to be told to do something. Not much going on here, David.

David points out that in order to do anything interesting I'm going to need an ID card, and says Derby IV can help. Derby IV turns out to be a computer, who, when asked for help, produces a blank ID. In another room I find a camera and a roll of film — obviously something to do with putting my photo on

Magic Knight

Window menus allow the knight to pick up camera, film and glue



ight takes a well-earned rest in the recreation room

SOFT PREVIEW 128K

the card.

Forbin the droid can help here. Droids are semi-biological beings, according to David, which sounds like a hint to give it some food. I proffer the MacTablet.

"Klink says 'Yummy, you can almost taste the side salad in this T-Bone steak tablet'." David explains that there are eight different flavours for the tablets. That's more variety than you get from MacDonalds, anyway.

Klink is then given the camera and the film and told to take a photograph. There's a blinding flash, but it appears the photo hasn't come out. "You're still wearing the cloak of invisibility," explains David, wearily but helpfully.

The graphics for all this are simple but effective. There's no 3D effect but the speed of movement is fast in compensation. Virtually anything that can reasonably be examined or read produces messages on the screen, often quite verbose and very funny. When I finally manage to use the pot of glue to stick the photo — a new, successful one — to the card it turns out to be a special pass signed by King Jones himself. David's nothing if not modest.

Mastering the ship's facilities is only the beginning of the game. You must travel among a wide range of planets in order to discover the location of the black hole. At some of these planets there will be other characters — hostile or helpful, and usually requiring some sort of fee for their services. The ship and its shuttle comprise about 15 rooms, and more than 50 are spread around the various planets.

Messages concerning the other characters may reach you — Murphy, for example doesn't like me, but has a craving for potatoes. Either I'm going to have to find some spuds for him or use my various defences — gas, invisibility cloak, magic perhaps, to get past him. There are three basic defences, and all have a corresponding attack form. Cameras are dealt with by the aforementioned cloak, gas by a gasmask, and microphones by the use of special boots.

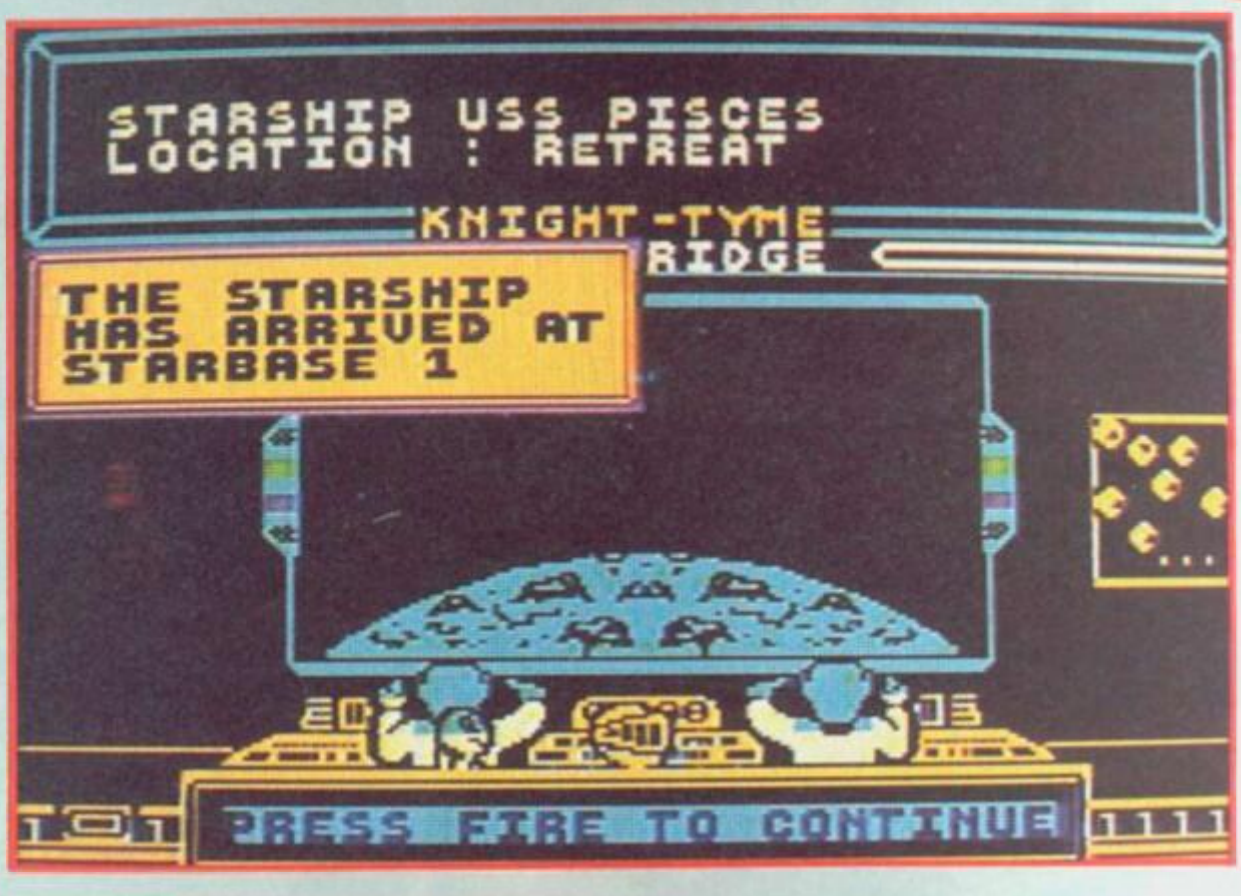
To say much more about the game would be premature at this stage, but we'll carry a full review as soon as we can. In the meantime Mastertronic do plan to bring out a scaled-down 48K version of the game with less graphics and fewer rooms — "or more likely fewer stars" says David. He says it's his intention to use up every byte of the 128K in the final version, and that will make it more than twice as big as anything on 48K.

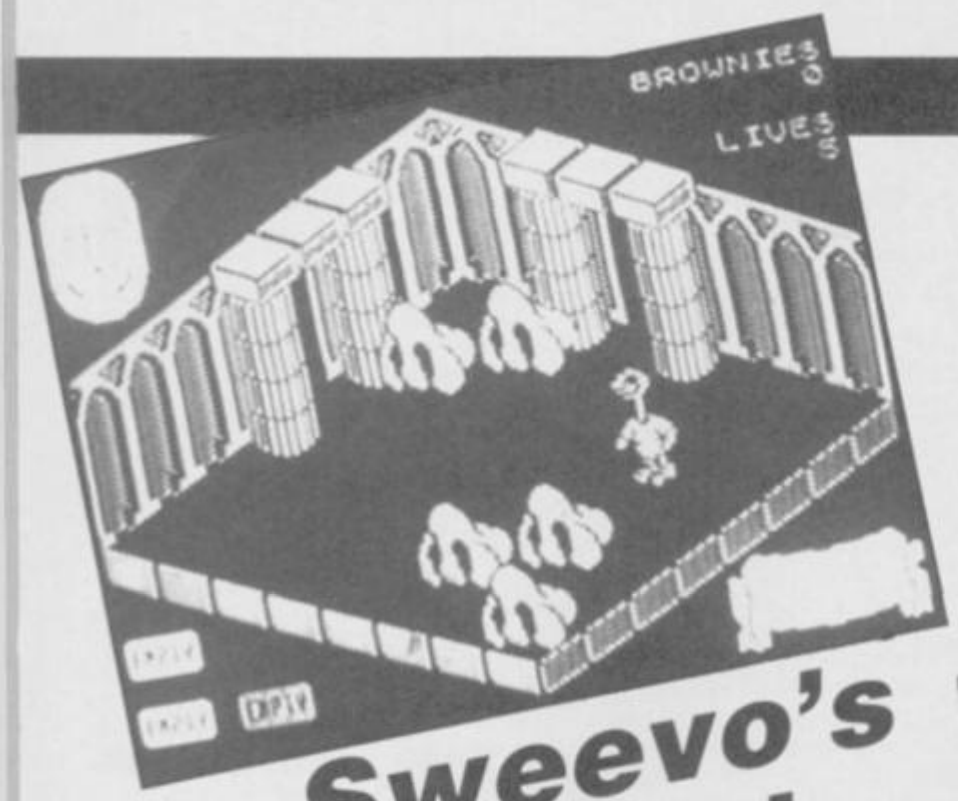
"If we're going to do anything on the 128K," says Mastertronic's Colin Johnson, "we may as well go all out for it." The difference between that attitude and those of software houses who are only interested in testing the water with a souped-up rewrite is already apparent in what I've seen of **Knight Tyme** so far.

Perhaps other companies may learn a lesson from Mastertronic and follow suit — because if the new machine succeeds as it deserves to, it's going to need a lot more than **Spinoff Raiders Pt IV** (128 version) stamped on the cassette inserts to convince people.

Well done Mastertronic. Who's next?

Chris Bourne





Sweevo's Whirled

GARGOYLE's contribution to the great 128 bandwagon/ beanfeast is a new version of **Sweevo's World**, reviewed in the February issue.

Retitled **Sweevo's Whirled**, which just about sums up programmers Greg Follis and Royston Carter's idea of verbal humour, the game now contains 250 different rooms in a **Knight Lore** lookalike of great wit and style.

All the energy has gone into creating new rooms and the differences which that makes to the gameplay. There's no added music, alas, just the same old beeps, now amplified through the TV speaker. Whether you reckon that makes it sound twice as good or twice as bad is a matter of personal opinion.

For those who don't know the original, you must travel around the interconnected levels of Knutz Folly, an artificial planetoid full of rubbish and weird genetic experiments. These must be cleared up in order to win.

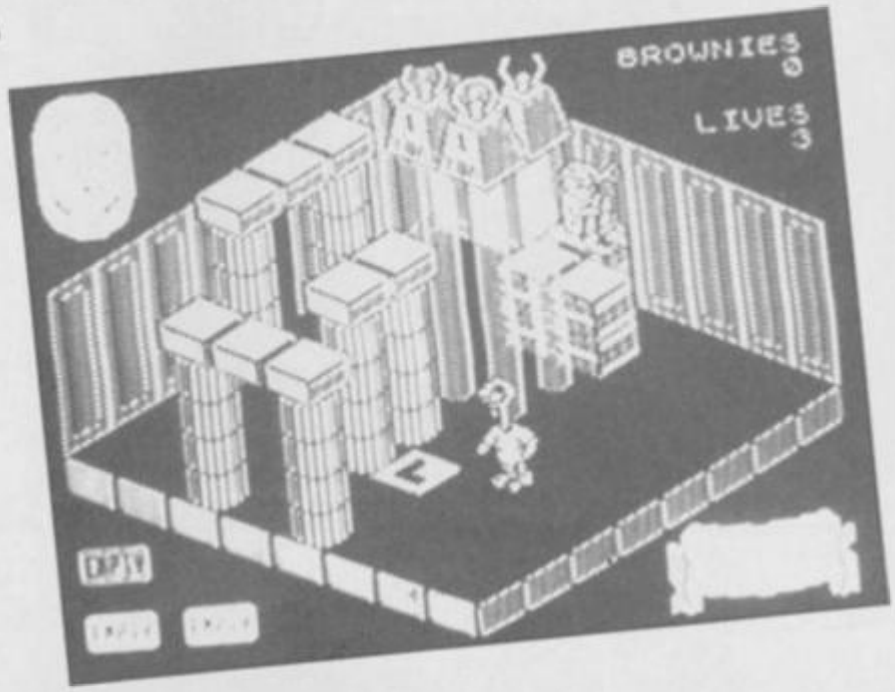
Sweevo himself is a delightfully animated creature of extraordinary clumsiness. He parachutes into rooms, curls up in a ball when rocketed up lift shafts, and see stars when he hits objects. Recurrent themes include deadly fruit, horrible fingers which stick up through the floor at a moment's notice, little Hitlers, nasty girls, the Goose which lays the golden erg and other strange creatures and traps.

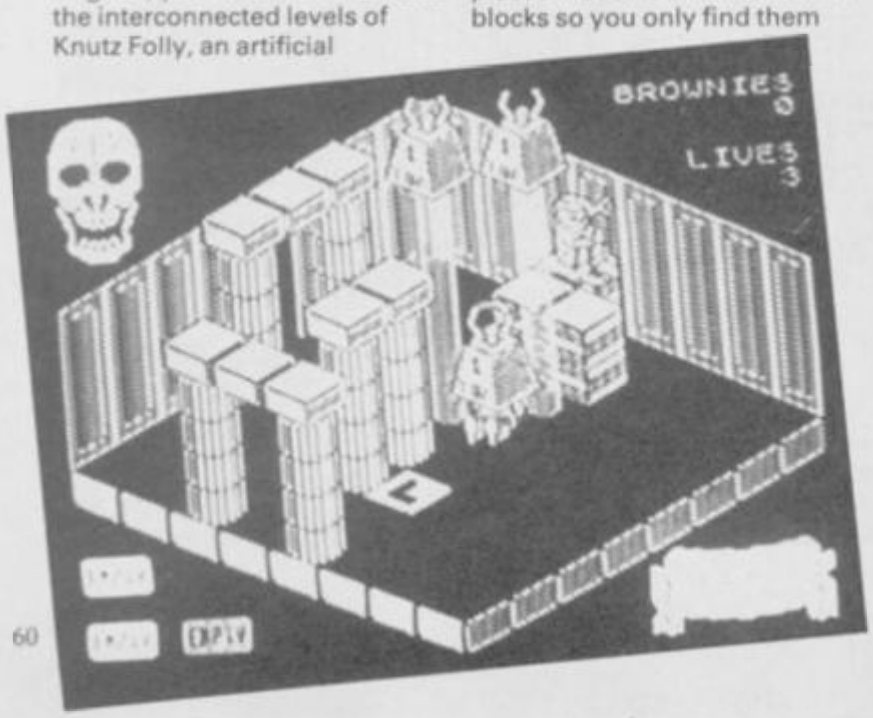
Additions to the 128 game include sets of upturned nostrils, which seem to be just waiting to suck you in to snotty oblivion, and strange Victorian style streetlamps.

Although you can't push objects around as in the 3D Ultimate games, **Sweevo's Whirled** contains much more intricate routing problems as there may well be hidden exits and entrances to rooms via unseen transporters. Greg and Roy have a nasty habit of leaving important objects or places hidden behind towers of blocks so you only find them when you're on top of them.

The other side of the game is its insistent mockery of the rather serious Ultimate classics, **Knight Lore** and **Alien 8**. This lifts the game from lookalike status to a class of its own, as its quite clear what Gargoyle are up to from the start. The old boot from **Knight Lore** lurks around, and the continual picking up of tins upon which to stand to reach other objects is a sort of high energy version of all that ferrying around of objects in the Ultimate games. Full marks for fun on that score.

Other additions to the game include an extra two start positions which you can choose in addition to the original four. Many of the new rooms have been distributed around the maze fairly evenly, so that players of the original will find it's not just a question of solving the old game and then moving to a new section.





The Rocky Horror Show

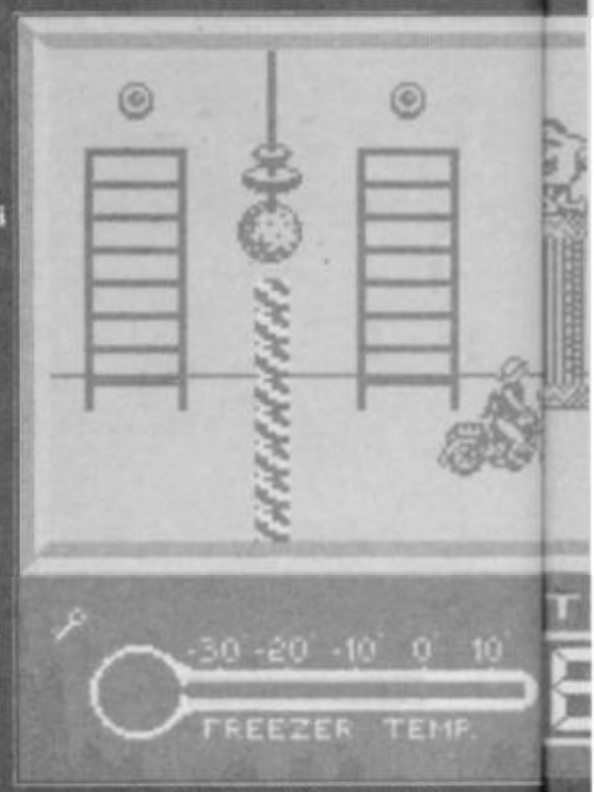
THE TIME WARP sounds rather out-dated now, and the game doesn't look so hot either.

Probably the only reason why CRL has bothered relaunching this 128 edition is so that it can add the sound from the Commodore 64 version. In practically all other respects nothing has changed.

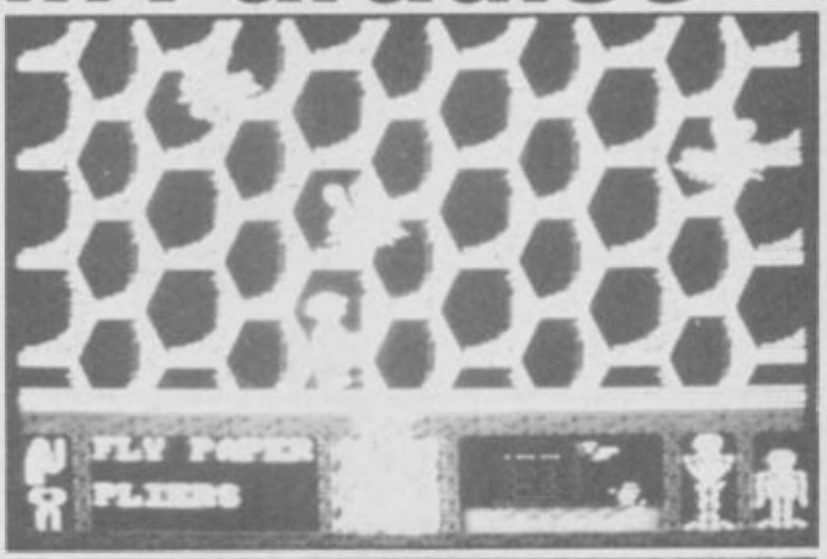
The film, of course, was something of a cult hit, with cinema audiences going ape — speaking the lines in unison, and throwing toast and confetti at the screen. Reduced to the confines of a Spectrum, even with 128K, what you get is a bunch of bizarre characters mouthing mumbo-jumbo — "That's not the candlestick you're holding" — which has minimal significance even if you've seen the movie.

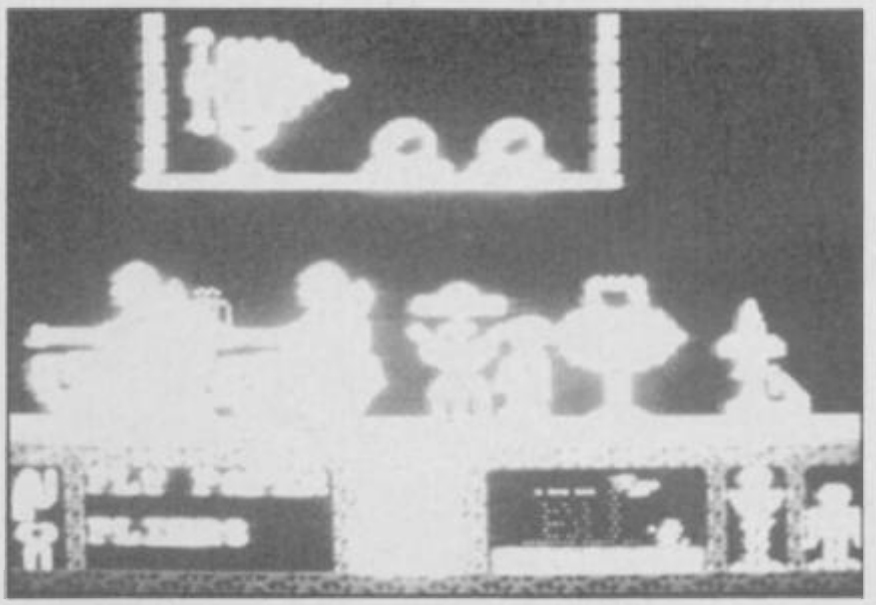
The game is actually very simple. You are Brad — or Janet — and you must find the 15 pieces of the dismantled De-Medusa machine which are scattered around evil Dr Frank 'n' Furter's castle. The De-Medusa must be remantled if you are to save your beloved Janet — or Brad — from being turned into stone. Time ticks away as the castle, a disguised spaceship, counts down to lift-off.

The doctor's abode is



Three Weeks in Paradise





THE RUSH to bring out 128 software to coincide with the launch of the machine has forced a number of companies to cobble a few extra screens onto the tail-end of existing games. Mikro-Gen is no exception.

Three Weeks in Paradise — 128 version — is the proud owner of six new screens and three new objects. Those are fairly easy to find as you start off with the first one — fly paper — and the other two are very obvious.

The only tricky part of the new extended game is to find the screens. A quick exploration will show any of you who know the 48K version that there is only one place the extra screens could be lurking.

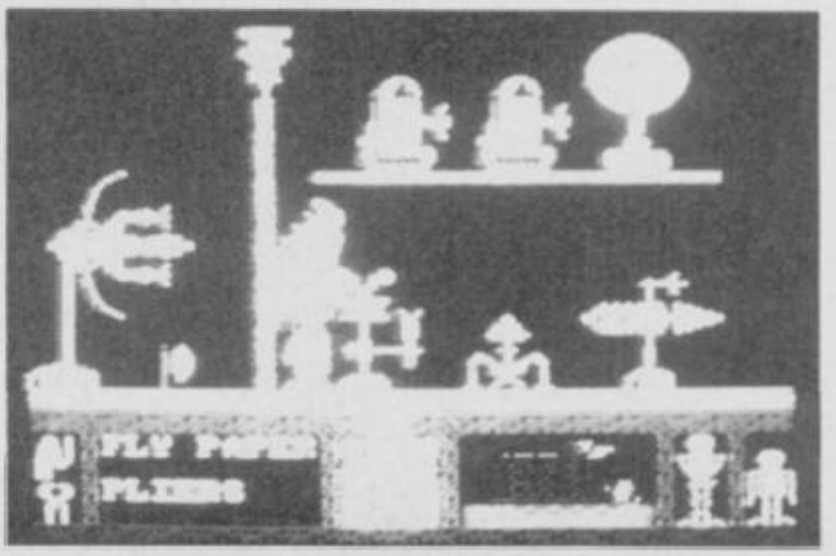
They are extremely easy to negotiate, provided you are carrying the right objects, and, due to the lack of warning given by Sinclair, they are distinctive in their simplicity and lack of blazing colour. The screens also differ in their content — instead of jungle, a space theme is prominent and aliens take the place of bats and indians.

Just saunter through the new screens, dodging space invaders, slow-flying bees, two monkeys and an electric charge and three screens of bouncing aliens. The axe lies in the last screen and you must collect that to cut down Wilma.

The music on the 128K version is the same as that of the 48K game but is much enhanced and can be controlled through the TV. I'm not surprised the sound has been left in its original state, the 48K version was excellent and those pathetic beeps even managed to sound tuneful.

As the new screens add an extra, if small, challenge and the price has risen by only one pound, I feel that the 128K version of **Three Weeks in Paradise** deserves to keep its Classic symbol. *Clare Edgeley*

Publisher Mikro-Gen
Programmer David Perry
Price £10.95 **Memory** 128K
Joystick Kempston, Sinclair
★★★★★



SOFTWARE 3

The original version won five stars for its original humour and sheer scale and chutzpah. While **Sweevo's Whirled** is clearly better, by virtue of being much more complex and vastly larger in size, the lack of good sound and anything really new and noteworthy leads up to knock a point off for not trying as hard as possible. It's also £2.00 more.

I'm sure Gargoyle's programmers — possibly the best in the business — can do better with their next 128 release. *Chris Bourne*

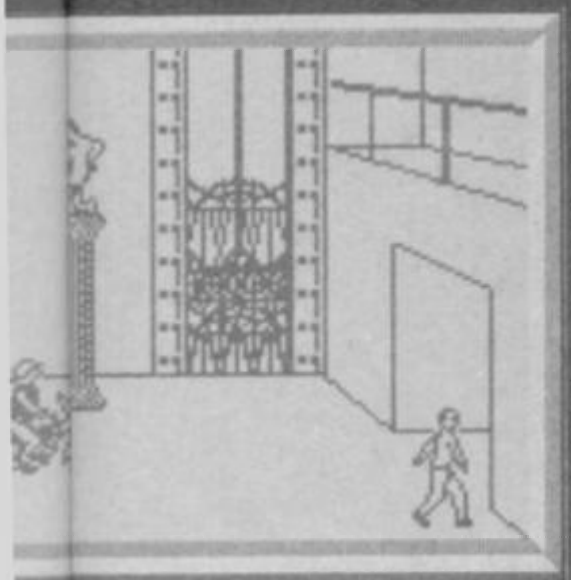
Publisher Gargoyle
Price £9.95
Memory 128K
Joystick Kempston, cursor, Sinclair
★★★★

populated by weirdos: Riff-Raff the butler, with his raygun; Magenta, his sister; Columbia the groupie; and Eddie, the rocking biker from the deep freeze. There's also Rocky Horror, a 'creation'.

Provided you take care not to step in front of Eddie or Riff-Raff, or walk into the sparks in the gym, then the game boils down to a fairly routine matter of picking up keys and bits of the machine, unlocking doors and engaging in meaningless one-sided communication with the various loonies. It's not even mildly enlivened by losing all your clothes when you encounter Magenta.

This version has an added title sequence with four dancers doing the pelvic thrust to the strains of *Let's do the Time Warp Again*. The same tune plays continuously thoughout the game, accompanied by the odd squeak or two, until you turn the sound down on the TV in exasperation.

Good graphics, reasonable animation, tiresome music and monotonous gameplay; we gave it three stars when it appeared last summer, and there's little reason to change that rating. Strictly for the freaks. *Bill Scolding*



Publisher CRL
Memory 128K
Price £9.95
Joystick Kempston, Protek, Sinclair
★★★

BETA-PLUS DISK INTERFACE

THE ULTIMATE FOR THE SPECTRUM OWNER

SIMPLY MAGIC

The latest Beta-Plus Disk Interface has, apart from many new features, a unique feature—the **MAGIC BUTTON.** It transfers tape based programs to disk system with speed, simply by a touch of the **MAGIC BUTTON.**

		Price £	P&P £
BETA-PLUS	Beta Disk Interface with File Handling, Reset and **MAGIC BUTTON.**	**109.25**	4

SPECIAL PACKAGE PRICE

		BETA-PLUS & DRIVE	
SINGLE DRIVE			
5.25"	Slimline Mitsubishi disk drive (80 T D/S)	**229.00**	8
3.5"	Ultra Slimline Mitsubishi disk drive (80 T D/S)	**229.00**	8
TWIN DRIVE			
3.5"	Ultra Slimline Mitsubishi disk drive (80 T D/S)	**329.00**	8

3 IN 1 DELTA DISK INTERFACE

A NEW DIMENSION FOR THE QL

SIMPLY THE BEST

The design of Delta Disk Interface allows total flexibility and upgradability. The Delta Disk has a **UNIQUE 3 IN 1 FEATURE** —a Disk Interface, a Centronic Printer Interface and also a Memory Expansion up to a total of 128 Kbytes RAM. The Delta Disk Interface gives instant access to the disk drive and printer with ease.

		Price £	P&P £
DELTA BASIC	Double Density Interface	**129.50**	4
DELTA 128	With 128K RAM	**199.50**	4
Q-PRINT	Centronic Printer Interface for QL	**29.95**	4

SPECIAL PACKAGE PRICE

		DELTA BASIC & DRIVE	DELTA 128 & DRIVE	
SINGLE DRIVE				
5.25"	Slimline Mitsubishi disk drive (80 T D/S)	**250.00**	**310.00**	8
3.5"	Ultra Slimline Mitsubishi disk drive (80 T D/S)	**250.00**	**310.00**	8
TWIN DRIVE				
3.5"	Ultra Slimline Mitsubishi disk drive (80 T D/S)	**350.00**	**410.00**	8

Cut out this coupon and send with cheque or postal order to:

TECHNOLOGY RESEARCH LTD., UNIT 18, CENTRAL TRADING ESTATE, STAINES, MIDDLESEX TW18 4XE TEL: (0784) 63547

PLEASE SEND ME: QTY TOTAL

NAME _____ ADDRESS _____

(BLOCK CAPITALS PLEASE) ★ Disk drive is complete with power supply ★ All prices are for UK only and inclusive of VAT ★ Special package is subject to availability

Bach to the future

Making music on the 128. Chris Bourne lets rip on the new sound chip

POOR SOUND has always been a cross Sinclair users have had to bear, right from the early days.

The ZX80 and ZX81 had none at all, while the Spectrum has that godawful Beep, pathetically inadequate for most games and difficult to program. The QL does rather better on noise levels but has one of the most awkward Beeps known to computing man, with masses of numbers after each command to define the sound.

The 128 heralds a new era in the history of Sinclair beeping. For the first time there's a decent sound chip — the same one as is used by Amstrad. Not only does it provide three sound channels through the television speaker, but it's easy to program as well.

This article is designed to take you through programming a simple piece of music on the 128 and on the way demonstrates some of the facilities available. We're going to use a prelude by Bach, who usually sounds quite good on electronic instruments.

First things first, though. How is the sound going to be stored? The 128 uses three strings — a$, b$ and c$ for storing the three separate channels, or voices. A new Basic keyword, Play, produces the sound. The program is therefore going to look like this:

```
10 LET a$="some music"
20 LET b$="some more music"
30 LET c$="other bits of music"
40 PLAY a$, b$, c$
```

For musicians, figure one shows the first three bars of the music we're going to program. To make things simple, we'll start with c$, which is going to hold the lowest notes in the piece.

The first note is middle C, and is represented by the letter C. But how does the computer know which C to play — the middle one, or an octave higher, or what? There are nine ranges allowed, which overlap and span two octaves each. The bottom half of one range is the upper half of the next, so there are two ranges containing any one note. We want a range with middle C in the middle — octave 4. So the first line in the string is O4C. From now on any notes will be taken from that range — capital letters indicate the upper half and lower case letters the lower half.

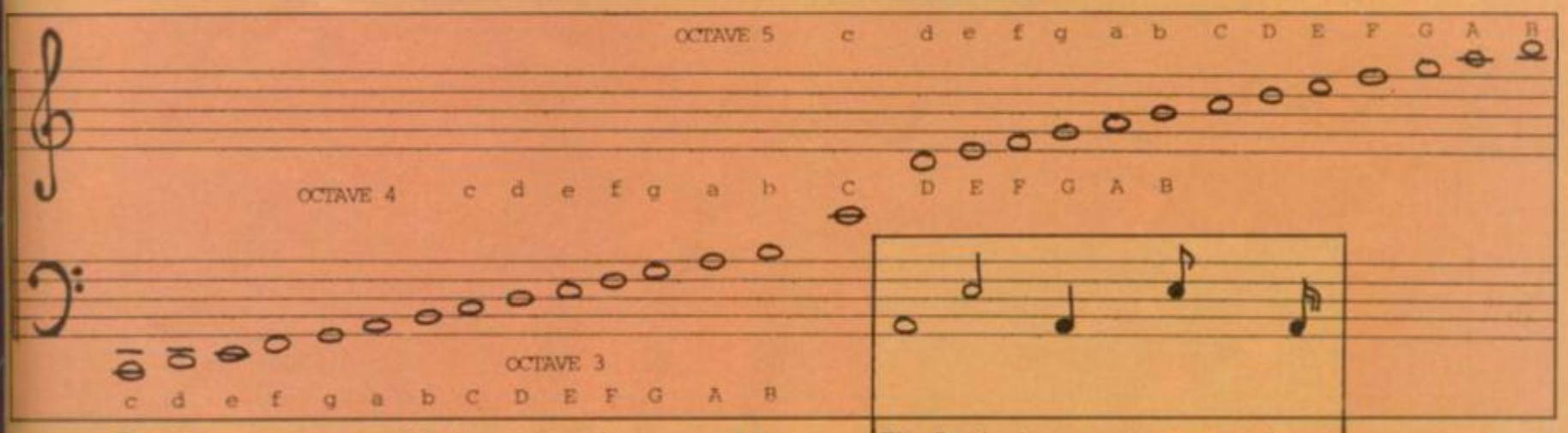
So far so good, but this note is in fact a whole minim long — two full beats. If you don't specify the length the computer will play crotchets — half what we want. So we give it the value 7, which means minim: "O4N7C". The N is used to separate two numbers.

The next note is also a minim, so we can write "O4N7CC" without repeating the 7, as all notes will now be minims until that is changed. The next four notes in c$ are also minims — two Cs and two Bs. "O4N7CCCCbb". The small letters for B indicated that we are now in the lower range of octave 4.

That's c$ for the first three bars; b$ holds the notes in the middle — those are more complicated. They're all close to the c$ notes, so we can still use octave 4, but they start with a rest — a piece of silence. The sign for a rest is &. This rest is a semiquaver long — one quarter beat — which has the number one, and consequently we get "O4N1&".

After that there's a longer note — a dotted quaver plus a crotchet tied together as one note. That's 1¾ beats, and there's no number for that. But a dotted quaver is four and a crotchet five so "4_5E" means

Figure 1. The first three bars of a Bach prelude



The three note ranges used in the program. Notice how A in octave 3 is the same note as a in octave 4. Middle C is in the centre of octave 4

The five basic note values — semibreve, minim, crotchet, quaver and semiquaver. A dotted note would have the same value and half as much again

►64

◄63

tie the two together on note E, giving us "O4N1&4_5E".

The next note is exactly the same — 1¼ beats on E with a rest in front. You don't have to write it all out again, though. Putting a pair of brackets round the bit to be repeated will do the job. "O4(1&4_5E)". Because we've a bracket now between the 4 and 1 at the beginning, we don't need the N to separate the two. The other b$ notes are very similar, giving "O4(1&4_5E)(1&4_5D)(1&4_5D)". You can't use double brackets here to repeat three or more times, as two brackets means repeat for ever, and we don't want that.

The final voice is a$, which starts with a quaver rest followed by six semiquavers. The pattern is repeated throughout, so, just as in b$ we can save space with brackets.

"O5(3&1gCEgCE)(3&1aDFaDF)
(3&1gDFgDF)"

Notice that we started with octave 5 to give a higher range for these upper notes, and the way it switches from lower to upper case letters as the mid-point of the range is passed.

Although a$ is now much longer than b$ it takes the same time to play because the notes are shorter. But how quickly does the computer play the music? If you don't specify a time, you get 120 beats per minute, but you can see an instruction on the music for 108 beats. The command for that is T108. That only needs to be put in a$ — the other channels will keep time with it. So, at the beginning, we get "T108O4(3&1 . . . "

```
  10 LET a$="UX2000W0T10805(3&1g
CEgCE)(3&1aDFaDF)(3&1gDFgDF)(3&1
gCEgCE)(3&1aEAaEA)(3&1#faD#faD)(
3&1gDGgDG)(3&1egCegC)(3&1egCegC)
(3&1d#fCd#fC)(3&1dgbdgb)(3&1eg#C
eg#C)(3&1daDdaD)(3&1dfbdfb)(3&1c
gCcgC)O4(3&1aCFaCF)(3&1aCFaCF)(3
&1gbFgbF)(3&1gCEgCE)(3&1#bCE#bCE
)(3&1aCEaCE)(3&1aC#EaC#E)(3&1bCD
bCD)(3&1gbDgbD)(3&1gCEgCE)(3&1gC
FgCF)(3&1gbFgbF)(3&1aC#FaC#F)(3&
1gCGgCG)(3&1gCFgCF)(3&1gbFgbF)(3
&1g#bEg#bE)3&1faCFCaCafafdfdO5N3
&1gbDFDbDbgbdfedV15N9C"
  20 LET b$="O4(1&4_5E)(1&4_5D)(
1&4_5D)(1&4_5E)(1&4_5E)(1&4_5D)(
1&4_5D)(1&4_5C)(1&4_5C)(1&4_5a)(
1&4_5b)(1&4_5#b)(1&4_5a)(1&4_5#a
)(1&4_5g)(1&4_5f)(1&4_5f)(1&4_5d
)(1&4_5e)(1&4_5g)(1&4_5f)(1&4_5c
)(1&4_5f)(1&4_5f)(1&4_5e)(1&4_5d
)(1&4_5d)(1&4_5#e)(1&4_5e)(1&4_5
d)(1&4_5d)(1&4_5c)1&4_5_7c1&4_5_
7#c9E"
  30 LET c$="O4N7CCCCbbCCCCCCbbb
baaddggggffffeeeeddO3ggCCCCff#f#
f#a#agggggggggggggggcc9c9c9c"
  40 PLAY a$,b$,c$
```

Figure 2. The complete listing

A full listing for the piece, Prelude 1 of the famous 48 Preludes and Fugues by Bach, is given in figure two.

You'll notice a couple of extra symbols have crept into the full listing. Flats and sharps are denoted by $ and # respectively. They apply to the note following.

The letter U turns on various volume effects. There are eight in all, and the listing uses W0, which fades the note out for the duration of X. That gives a sort of old-fashioned piano sound to the notes as they swiftly die away after they have been 'struck'. The other channels are left as they are — like an organ accompaniment.

V15 at the very end of a$ is a simple volume setting. You can go from 0 to 15, 0 being silent. All music is played at the highest volume if V is not set, but here I've used it to cancel the previous effect to keep the final note sounding until the end.

Other sound effects given by U and then W allow the sound to build over the period of X, decay and hold, build and hold, and also to have repeated mixtures of the two. With the right choice of duration, you can get all sorts of sound, ranging from plunkety-plunk piano to noises sounding suspiciously like mouth-organs and mandolins. By combining the effects across all three channels, you can get even weirder sounds.

CentreSoft presents

With over four years experience of providing practical software solutions for business and home applications, Gemini have put together their entire range of famous titles for the Spectrum and Spectrum Plus in ONE special pack, at a VERY SPECIAL price. Whether you're a cassette or microdrive user, this super value pack contains all the serious application software you're ever likely to need for your Spectrum, from home accounts and database management to a complete professional business accounting system.

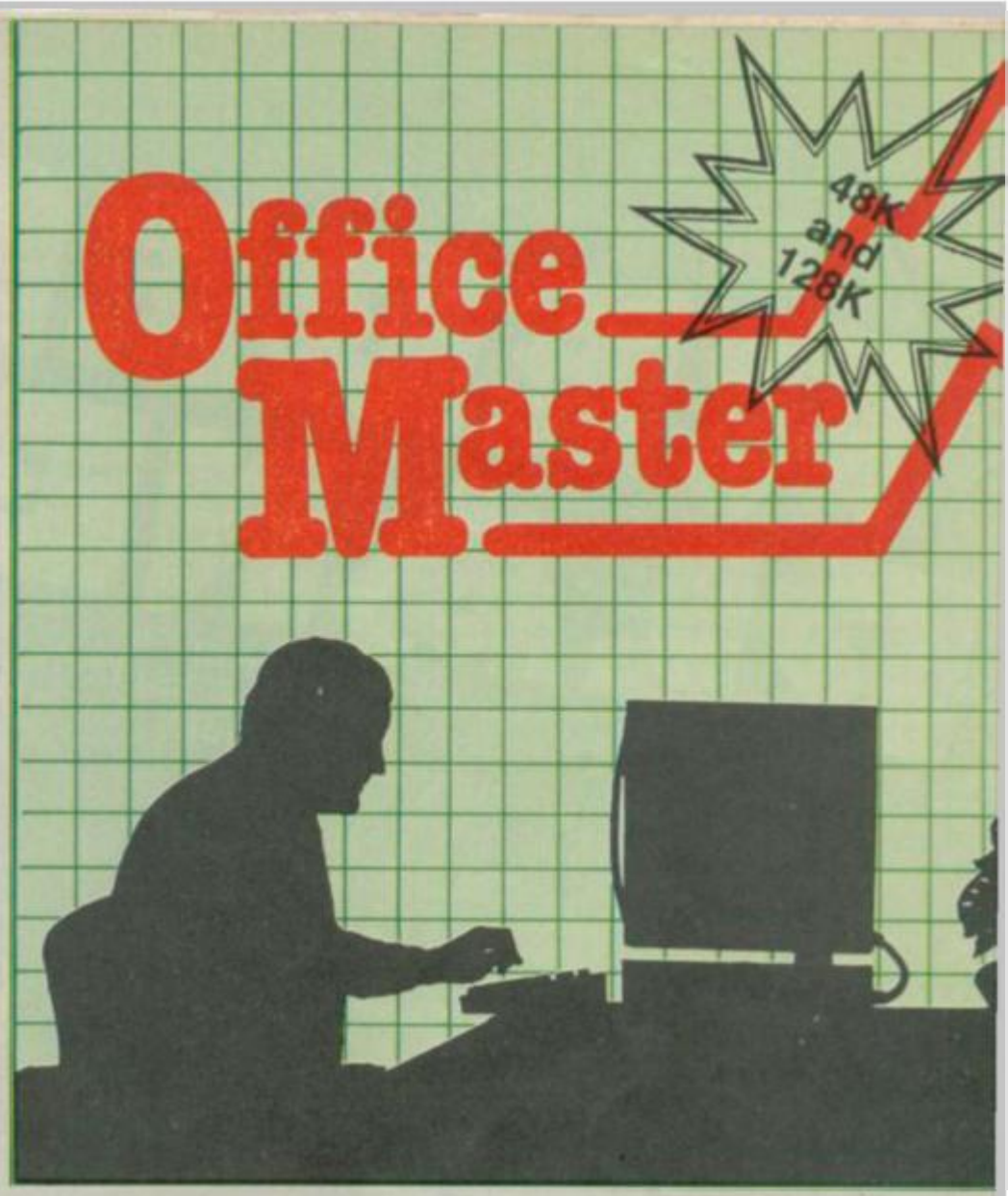
Gemini's OFFICE MASTER is here—put that computer to WORK!

- **Database**
- **Stock Control**
- **Final Accounts**
- **Easiledger**
- **Mailist**
- **Cash Book**
- **Home Accounts**
- **Graph Plot**

Each pack contains ALL 8 programs, demonstration data files, and clear and comprehensive manuals for EACH program. Gemini's previous retail price for all these programs individually was £179.60. Now they're all together in ONE COMPREHENSIVE PROGRAM PACK.

OFFICE MASTER

Tape: **£15** Microdrive: **£17.50**
includes P&P and VAT.



Database

Use this program for storing all types of information just the way YOU want to store it. You set up a computerised 'card index' system and add records and data to the file in the format that you choose. Advanced features include sorting and searching for specific records, mathematical calculations, printer routines, data summaries, etc. If you don't have a database, you certainly should!

Mailist

This is a specially designed database for storing names and addresses, and printing out in label format. Special search routines are included for selecting only names and addresses that conform to your criteria. The famous Gemini 'Searchkey' facility is included with this program, and data entry is simplified by an on screen label painting system. Just type in those names and addresses as though you were using a typewriter!

Stock Control

One of Gemini's speciality programs, this software will take the drudgery out of keeping stock records. Enter details of part number, description, unit quantity, cost price, selling price, minimum stock level, units in stock, order quantity and supplier details. Detailed reports include totals of stock at cost and sale price, cost of bringing stock up to level specified, gross margin, understocked items, etc. Full browsing facilities to make inventory management a pleasure!

Cash Book

This is a full and comprehensive cash book accounts system designed to REPLACE your manual ledger entirely. It will take you from the 'shoebox' situation of sheaves of invoices, cheque book stubs, petty cash vouchers and bank statements etc. to a properly constituted trial balance. You may then take your FINAL - ACCOUNTS package and produce profit and loss account and balance sheet ready for audit. A REAL money saver when it comes to your accountancy bill!

Final Accounts

Using the data file on microdrive or cassette prepared by the cash book program, this software will produce comprehensive end-of-year reports ready for audit by your professional adviser. The Gemini cash book and final accounts system is now in use by many thousands of businesses and as a 'classic' professional program has been translated for a wide variety of micros. Cash - book and final accounts alone warrant the purchase of this OFFICE MASTER program pack.

Home Accounts

Designed as a complete financial and budgeting package for home affairs, this program allows the user to set up a budget for items of household and family expenditure and compare actual expenditure with budget as often as required. A running total of surpluses and deficits is available both numerically and in bar graph form. A complete bank account routine is included, together with suggested expenditure categories which may be simply altered as required.

Easiledger

Consists of invaluable routines to allow the creation of any type of financial ledger system. Its usefulness lies in its ability to produce account balances instantly for debtors and creditors together with an audit trail of all entered transactions, with dates and references. A year-to-date summary is included of sales, purchases, receipts and payments over a 12 month period, and most importantly, a completely interactive bank account database is featured.

Graph Plot

At last, superb grapns, bar charts and pie charts on your Spectrum! With a complete data entry section and the ability to load and save files, this is really one of the fun programs to use. Represent numbers and data in clear diagrams with this package, and print them out on your printer to accompany reports, budgets, etc. Very highly recommended for the office, home and school. Also includes capability to provide *mathematical function plotting.*

Sole distributors to the trade: CentreSoft Ltd.
Tel. 021-359-3020

Mail Order 1

Gemini

To: Gemini Marketi
Limited,
Gemini House,
Exmouth EX8 4

Please send me____ Spectrum OFFICE MASTER pack

Cheques/POs enclosed or please debit my Access/American Express No. _____ (SU4)

Name: _____

Address: _____

_____

Signature: _____

24 HOUR CREDIT CARD HOTLINE - (0395) 265165 (4 line

Trade and overseas enquiries welcome.

YOU READ THE BOOK–NOW PLAY THE GAME!

REBEL PLANET

Based on a concept by
Steve Jackson & Ian Livingstone
and story by Robin Waterfield

Game written
by Adventuresoft
Distributed
by U.S. Gold

Available from your
local Computer Store
in May

Available on Commodore 64,
Amstrad and Spectrum 48K
Disk £14·95 Cassette £9·95
BBC/Electron (Text Only)
Cassette £7·95

As the might of the alien Arcadian Empire tightens its hold on our galaxy, the leaders of the secret Earth organization, SAROS, gather their slender resources into one last daring and foolhardy mission to strike at the heart of the invaders' home planet.
YOU are their last hope. Equipped with a forbidden laser sword, your mission is to seek out the underground resistance and piece together the vital code you need to destroy the enemy. But time is running out and only YOU stand in the way of the Arcadians' complete domination of the galaxy!

U.S. Gold Limited, Unit 10, The Parkway Industrial Centre,
Heneage Street, Birmingham B7 4LY.
Telephone: 021-359 8881 Telex: 337268

TM denotes a trademark of Penguin Books Ltd.
Produced under licence from Steve Jackson and Ian Livingstone

Adventure Helpline

Gordo Greatbelly, landlord of the Dancing Ogre, offers help to lost adventurers

WE TOOK the southern military road from Urtuun to Maru, heading into the scrubland and then the desert proper.

Our stay at Urtuun had been fruitful but we were glad to put the stench of its streets behind us. All of us seemed to have enriched ourselves — myself from the proceeds of the eating contest, Iubba from the sale of a gem which we all suspected was the Eye of the Snake Mens' god Szasassa.

Zul and Zel, being small, had taken a part-time job as rat-catchers in the town's ancient sewers, receiving a bounty on each catch they made. Zul informed us that they had found it best to catch them with their teeth as they crawled along on hands and knees. The twins' smell had certainly grown since taking on this venture — both considered this a vast improvement. We made them ride downwind and wore kerchiefs over our faces.

The empty zone extends for three days' ride and the few water-holes are secret, known only to the black-robed riders who patrol the region. This secrecy is to ensure that any invaders will be near dead of thirst by the time they reach the first garrison, easy meat for the savage fighters who are based there.

Fortunately we had provided ourselves with stocks of meat, water, wine and ale for the dry trip and, as twilight came, found ourselves in a sandy wilderness where the red rocks were split and torn by the awful heat. As the brilliant desert stars came out we pitched our tents in the lee of one of these outcrops, lit our lamps and partook of a side or two of beef, washed down with a half-hogshead of strong ale. For the first time in many moons I was able to browse through my mail by the glimmer of my trusty oil lamp.

First was a missive from Basher the Black and his Lady Patricia. They dwell at 137 Legahory Court, Craigavon, Northern Ireland BT65 5DF and have completed 30 or so quests including **Sherlock, Mordon's Quest, Planet of Death** *and the* **Ket Trilogy**. *They have also unravelled* **The Secret of St Brides** *and offer a hint or two to ease your way.*

"Are you grown 12 feet tall and too big to go places? Munch on the other side of the mushroom to shrink again. Do you know a Fir Bolg who craves entertainment? Write it down and rub it out! And those of you who are stumped by the blasted oak should try turning your cloaks inside out." This couple will help those who send their questions with the return post paid.

This mushroom clue should help the fair Korah Swiftaim who writes again from Salisbury for aid in shrinking. Besides this though she has sent me many

Mushroom-munchers invade St Brides

details of **The Worm in Paradise**, *Level 9's newest spell. "Greetings O Gross One," says she. "I put quill to parchment to give some general guidelines to getting about Enoch City. After you have successfully negotiated the Dream of the Worm you should break your collar and wear it again — you will feel freer for this. If you wish to return home just say 'home' on the pedways. When you are carried to the ET system you need only go south to enter your hovelish habihome.*

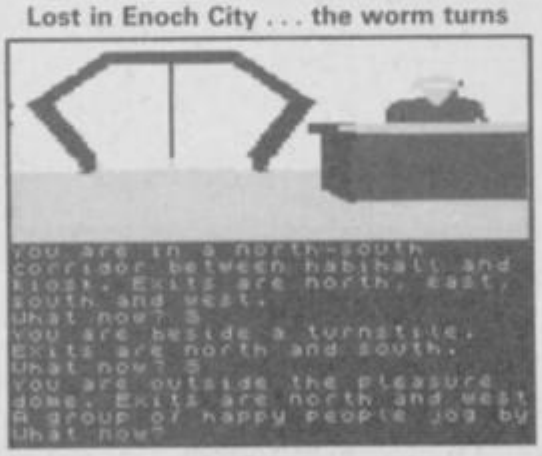
"Once home you will find a poster on the wall, a crack and a nozzle. If you say 'on' the poster will show itself to be a TV screen — the propaganda on it may give you much useful information about the city. Regular showers are vital so just say 'on' to the nozzle to refresh your tired limbs. Most important is the crack — saying 'bed' will show it to be a foldaway bed. If you say bed while lying on it, the bed will close and you will be cast into the undercity.

"If you wish to buy the Dagget — essential to social climbing — wait for the price to drop as the days go by. If you have the dagget and the socialist's wallet you should, if employed, be able to find the man's apartments and obtain a useful invitation." This and more she tells me but this is enough to get you well started. My thanks Korah.

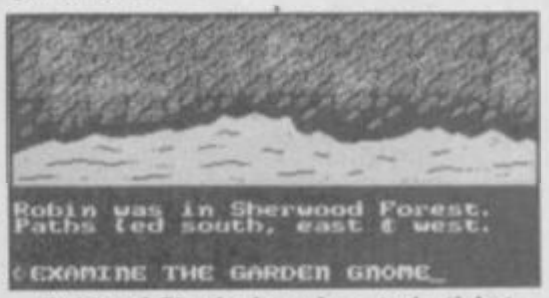
Archmage Haldane of 45 Westfield Road, Manea, Cambridgeshire PE15 0LS seeks help with **Quest**, *wishing to know how he can escape from the forest without the need to kill himself and be reincarnated elsewhere. To the best of my knowledge there are two clearings in the forest. Each has passageways going underground beneath it. One is dangerous, the other clear of hazard. Heading down one of these will bring the Archmage to a cave system where an important scroll can be found.*

The Archmage says he has 485 points and rates as an expert — he will help others in the **Quest** *if they write prepaid to him with their questions.*

Lost in Enoch City . . . the worm turns


you are in a north-south
corridor between habihall and
kiosk. Exits are north, east,
south and west.
What now ?
you are beside a turnstile.
Exits are north and south.
What now ?
you are outside the pleasure
dome. Exits are north and west
A group of happy people jog by
What now ?

Russell of Uphall, West Lothian is flummoxed by **Robin of Sherlock**. *He tells me he has found the dog, Toto, purchased a railway ticket and boarded the train. But still it does not move! Well, the train is not there to carry such as Russell — fortunately it will take the unbearable Dorothy off to Huddersfield. Get off it and get her on it!*



Robin of Sherlock seeks a train ticket

Cutter Taylor of Vicarage Farmhouse, Amber Hill, Sutterton Drive, Boston, Lincs PE20 3RS answers Freeman David's request for any help at all in solving **The Helm**. *He suggests the way to get over the first problem is to tie a rope to the hook and then go fishing in the lake. With patience this angling should deliver up a key which will open a door in the village. Inside the door is a shovel which can be used to dig up a board from beneath the sign. The board can be used to bridge the gorge leading to a cave. This should get Freeman started.*

As well as **The Helm** *Cutter can offer knowledge of* **El Dorado, Subsunk, Magic Mountain, The Hobbit** *and* **Espionage Island**. *Write prepaid with your specific requests. In return he would like to find a way to avoid drowning in* **Sinbad and the Golden Ship** *and where to locate two remaining parchments in* **Invincible Island** *— he has those from the Chest, Box, Cave, Pit and the small Island.*

Burridge the Burrower of Rayleigh has had problems in escaping in **Subsunk** *and also in hunting the* **Eye of Bain**. *In the latter he is badly pecked by a magpie who is protecting her nest from his curiosity. Digging in a field will unearth some tasty wriggling morsels for the bird and win its*

► 68

favours. Now to **Subsunk**.

Both Burrower and Banyard of Sussex cannot obtain the headache pills from the medicine cabinet. Marshman Reed of St Helens provides the answer. "Use a paperclip to pick the lock on the cabinet and reveal the pill bottle. Then drop the black rubber mat on the floor and empty the bottle. Dissolve the pill in a beaker full of water — there, no more pain in the head. But beware! The beaker must be filled with water before you have cleared the overflowing sink with the plunger — otherwise there will be no water to wash the pill down."

This is not Submariner Spencer of Exhall's problem — he needs to know how to open the locker in the submarine. Hugh Watter (or so I read it — this for the benefit of Five Best

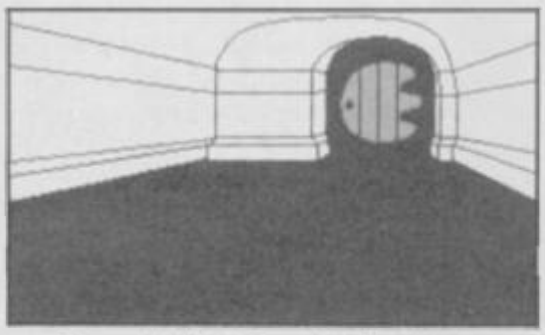
Subsunk headaches get the treatment

Shaw, ha!), Hugh Watter of 7 Burnet Avenue, Burpham, Guildford GU1 1YD tells us the locker is simply opened by twiddling the hook — the headache cure may give a clue to this as well. Now Hugh is a vastly experienced traveller and has completed nigh on six score games. He will offer help if you write prepaid, so pass your enquiries to the courier quickly.

In answer to Sir Malcolm Beal's plea for a screwdriver blade to **Escape from Pulsar 7**, *Hugh believes that there may be one concealed in a toolbox on the lathe in the workshop.*

Offering help too is Mad Max of 56 Amados Drive, Plympton, Plymouth PL7 3TT. For a stamped envelope he can answer specific questions on **Red Moon, Urban Upstart, The Hobbit** *and* **Planet of Death**.

Ringseeker Reily of Northallerton sends me two letters, first a request for news of the rope in the third quest of **Bored of the Rings** *and then the answer to his own plea, to be told for the benefit of other travellers. "Rejoice with me, for that which has been lost is found! Advise travellers thus — the rope can be found in the second quest, near De Lorian. It serves no purpose in that episode but, if it is taken and kept, helpful advice will be given at the end of that part. Heed this counsel. Keep the rope after you have left the mountains in the third quest — it will be needed again." Take note, O Bored Ones!*



Tunnel talk in Bored of the Rings

Many of these folk still cannot get through the Morona Maze — to this multitude, too many to name, I say follow the directions given on the map but look eastward near the end, for an Italian Stallion.

Tancredi Denofrio of Kingston Stert passes on news of **Fairlight** *and its final moments, saying, "To complete the quest you must have the crown. Go to the caverns and unlock a secret door down the passage that leads to a troll. In the room you will find a coffin — open it and fall down.*

"You must then get the book and go back through the door. Head for the tower which is guarded by three monks and kill the first one with a cross, the other two with potions. At the top of the tower is the Wizard himself and you must push the book into him. Get the key and go to the main gate."

Gardener Griffith of Cheltenham suggests another way to enter the Wizard's room and advises jumping through the roof, off barrels placed on the top of the tower. He also cautions you all to conserve crosses and potions. These will kill off all spectres if kept solely for that purpose and it is essential to keep one until after you have entered the Wizard's room.

From Simon Allbey of Taunton come tips on the completion of **Enigma Force**, *a way which will keep all characters fit for the final scene on the bridge of the shuttle. "First send Syylk into the room next to the insect armoury where the creatures are standing still. In a while a treaty message will appear. Now kill Zoff and take Zoff's card. Find the blue key card and open the insect armoury then use the Zoff card to open the next door. Go down. Move all the characters into the shuttle and your mission will be finished. Good luck!"*

Describing himself as a seasoned ale-swiller, Oaktree Hutchings of Nottingham begs for news on the use of the pale green jewels in **Lord of the Rings**. *An old friend, the Lady Sheila of Duxford, advises him to use one to see off the Barrow Wight. Her problem is in* **Spoof**, *however, and she begs someone to tell her the way to board the shabby green barge in this quest. Let me know, friends, so I can ease her pain.*

So the oil ran out in my lamp and I lay staring out over the moonlit sands of the Central Desert. Something moved out there, briefly but noticeably. Reaching for my club I got up soundlessly and roused the others. Who can have followed us to this empty place?

More next moon, my friends — let me know of all your travels. Farewell.

Greatbelly

Gordo Greatbelly, Landlord

If your have a tale to tell, or are in need of a helping hand, write to the Landlord of the Dancing Ogre c/o Sinclair User, Priory Court, 30-32 Farringdon Lane, London EC1R 3AU.

Final advice for Fairlight adventurers

cp software

SPECTRUM ★ AMSTRAD ★ COMMODORE 64 ★ QL

THE STRONGEST VERSIONS OF THE CLASSIC GAMES . . . from good retailers or by mail order

SUPERCHESS 3-5

GUARANTEED TO CONSISTENTLY BEAT ANY SPECTRUM OR COMMODORE 64 CHESS PROGRAM WHATSOEVER

- ★Save Game & Program to Microdrive
- ★On-screen clocks for tournament realism
- ★Unique new way of setting hundreds of levels
- ★All play within tournament time limits

FEATURES

- ★**Unique new way of setting levels by time gives you total control with three different options:** tell the computer to match your response times, give it a time limit to play to, or give it an average time to make its moves. **And you can force it to play its best move found so far . . .**
- ★Change sides and levels during play if required
- ★Stop the game and change positions at any time
- ★Set up particular games you want to try at any stage
- ★Will recommend your best move when asked
- ★Can be set to solve problems up to mate in four
- ★Extensive library of opening moves
- ★Option to determine your own display and piece colours
- ★You can play blindfold chess
- ★Absolutely suitable for beginners; just set the minimum move time
- ★Fascinating self-play mode for you to study the game
- ★TOTAL INFORMATION about the computer's thought processes, including: best line of play found so far, number of positions evaluated, depth of search, internal scoring system, display of previous moves if required, help menu if you should ever get stuck

DEDICATED TO EXCELLENCE IN THE GAME OF CHESS

STRONG – 100 times faster, 1500 times more intelligent
FAST – from 5 secs to the highest levels, all within tournament times
PENETRATING – at tournament levels it searches at least 7 moves deep, trying tens of thousands of lines of play
FRIENDLY – keeps you informed. Ideal for the expert or as a tutor for beginners
SAVES TO MICRODRIVE TO SAVE YOU TIME

£9.95 SPECTRUM

NEW

BRIDGE PLAYER 3

THE STRONGEST BRIDGE PLAYER YET

NOW play a CHALLENGING AND REALISTIC game of Bridge against the computer. Everything you could want in a Bridge program. Bidding and Play are both stronger than ever. The Computer can play as DEFENDER or DECLARER, generates random hands, and allows proper bidding in the ACOL system including the Stayman and Blackwood conventions. Then it TAKES YOU ON, playing both your opponents' hands. MORE FEATURES than ever before to give you a satisfying and enjoyable game of computer bridge, AND NOW you can save the program to MICRODRIVE.

FEATURES

- ★ Versatile bidding routines gives you a worthy opponent
- ★ Improve your game – Post-mortem facility allows rebidding and replaying of any hand
- ★ You can review the bidding or play to previous tricks while playing a hand
- ★ Input a hand or contracts of your choice to test yourself
- ★ Comprehensive ON SCREEN INFORMATION displays: – contract, tricks won so far, cards played in current and last trick, score
- ★ Option to bias the deal to give you and your "partner" more high card points if you prefer to play as declarer
- ★ At any time CLAIM THE REST OF THE TRICKS
- ★ RESTART the play of the cards
- ★ SAVE program to MICRODRIVE

BRIDGE TUTORS
with full manual and set hands to teach you the game
Beginners £5.95 Advanced £5.95

SPECIAL OFFER
Bridge Player 3 and both tutors £19.95

£12.95 SPECTRUM
WITH EXTENSIVE MANUAL

A REALLY STRONG OPPONENT FOR A REALLY GOOD GAME OF BRIDGE

NEW

ASTRONOMER II

THE UNIVERSE OF STARS IN YOUR OWN PLANETARIUM

Follow the progress of HALLEY'S COMET . . . **Study** the stars – past, present and future . . . **Understand** our solar system.

Astronomer II has everything in one powerful program . . . see the night sky of more than 1000 stars from any time or place on earth. Watch it plot the planets or draw in the constellations for you. See close-ups from the Star Atlas of 362 charts. Watch animated detail of our Solar System in motion and see it change with the months. Calculate everything needed for serious Astronomy to a high standard of accuracy. Produce your own tables. SAVE star and planet data to MICRODRIVE. Anything can be transferred to a standard printer AND you can save screens to tape and use your own special software routines for other printers.

Serious tool for the amateur astronomer – with excellent manual.
SAVING and PRINTING OPTIONS give extra scope for in-depth study.

FEATURES

- ★Comprehensive Manual with reference sections
- ★On-screen demonstration for the beginner
- ★Suitable for serious astronomical study
- ★Night sky views from anywhere on earth
- ★Works for past, present and future times
- ★Displays over 1000 stars
- ★Draws the constellations upon command
- ★Plots the solar system on the night sky
- ★Huge Star Atlas for detailed study
- ★Shows the motion of the solar system
- ★ Illustrates and predicts oppositions and conjunctions, calculates position for the Sun, Moon, Planets, Comets and Asteroids, then plots them on the Night Sky or Star Chart
- ★ Saves star and planet positions to tape or microdrive
- ★ Displays the phases of the moon, the distance from earth of any object, Sidereal time and rising and setting times
- ★ Ephemeris section: generate and print your own tables via ZX interface One
- ★ Fully compatible with ZX printer and saves screens to tape for other printers

£9.95 SPECTRUM

PINBALL WIZARD

FOR COMMODORE 64, AMSTRAD AND ANY SPECTRUM

Superb, colourful fast-action graphics and sound give this game the feel of a real arcade pin-table. Realistic launch, flippers, bumpers, high-score, bonus scores and freeball features. Be a Wizard!

". . . I thought that a few minutes would suffice, and then found that a couple of hours had passed and I was still at it. Excellent . . . Pinball Wizard has it made"
CRASH MAGAZINE

"A brilliant idea that's totally absorbing and so addictive . . ."
YOUR SPECTRUM

ANY SPECTRUM	**£5.95**
COMMODORE 64	**£6.95**
AMSTRAD	**£8.95**

SUPERCODE III

FOR SPECTRUM

150 ROUTINES
100% MICRODRIVE COMPATIBLE

With 150 ROUTINES and 100% MICRODRIVE COMPATIBILITY this has to be the ultimate Spectrum toolkit. It gives you the power to do everything you always dreamed of with your Spectrum in your own BASIC or M/C programs. Born of the earlier Supercodes (which themselves received 5 star reviews), we can claim confidence that we have packed absolutely everything into this State of the Art development. With Interface 1 it transfers easily to microdrive and is recognised by Sinclair as fully compatible. Needs no special knowledge to operate and comes with a comprehensive manual.

FEATURES

- ★ **Unique Access Program lets you INDEX/LIST/TEST/TAILOR/RUN/RELOCATE/SAVE (to tape or microdrive with new or default name/VERIFY automatically**
- ★ **Options include EXAMPLE/REPEAT/JUMP/AGAIN/CONT/Tlr/DEMO/DIAGNOSIS/MOVE**
- ★ **100% menu-driven with on-screen training** ★ **Brilliant user manual**
- ★ **Routines guaranteed SHORTEST AND FASTEST for all applications**

ROUTINES
SUPER MICRODRIVE CATALOGUE · TRACE (with 256 preset program speeds) · SCREEN COMPRESS FOR ADVENTURES · ON ERROR GOTO · DOZENS OF RS232 AND MICRODRIVE ROUTINES · ON BREAK GOTO · THE SUPER RENUMBER (Does everything!) · VARIABLE LIST · STRING SEARCH · STRING REPLACE · PAINT FILL · 5 SUPERB PROGRAMMABLE SOUND EFFECTS · RECORD + REPLAY SOUND/MUSIC · CONFUSE + UNCONFUSE LISTING · REMKILL · PROGRAM CONTRACT/EXPAND · PROGRAM ANALYSE · NUMBER – VAL COMPRESS · CHARACTER SWOP/SCRAMBLE/INSERT/REVERSE/ROTATE · WHOLE NEW CHARACTER SET (Sci-Fi) · FLASH + BRIGHT ON/OFF/SWOP · MEMORY FREE · PROGRAM LENGTH · BLOCK LINE + MEMORY ERASE/FILL/COPY · APPEND CURSOR · SCREEN SAVE/LOAD/SWOPY MERGE/FILL/SEARCH · HEX – DEC + DEC – HEX CONVERTERS · REMFILL · DATAFILL · GRID · INK + PAPER CHANGE · ATTRIBUTE SWOP/FILL/INVERT/RESET TAPE HEAD READER · PROGRAM PROTECT · PROGRAM BREAK-IN · HEADERLESS FILE CREATE · AUTORUN CODE · PROGRAM AS CODE · TAPE COPIER DEFEAT · MICRODRIVE DIAGNOSIS · FAST LOAD MICRODRIVE · + SURE SAVE MICRODRIVE · ADAPT TO MICRODRIVE · SURE CLOSE// · STRINGS + PROGRAM CASE CHANGE/SWOP · HEX LOADER · ANALYSE MEMORY · LINE ADDRESS · STARDRAW · FREE SCROLLER · 24 LINE PRINTING · LOWER SCREEN CLS · NEW UDG · PROGRAMMABLE BORDER EFFECTS · REMOVE COLOUR · RIPPLE + SHUTTER SCROLL (L or R) · SCROLL PIXELS/CHARACTERS/ATTRIBUTES SINGLY OR JOINTLY, UP/DOWN/LEFT/RIGHT, WITH OR WITHOUT WRAP-AROUND, IN A USER DEFINED WINDOW OF ANY SIZE POSITIONED ANYWHERE ON THE SCREEN – SPRITE EFFECTS . . . and many more besides.

£12.95 SPECTRUM WITH EXTENSIVE MANUAL

OTHER PROGRAMS for SPECTRUM

Toolkit/Utility – (ALL AT £9.95)
FLOATING POINT FORTH (with editor)
EXTENDED BASIC (renumber, trace etc)
LOGO (turtle graphics)

Classic Games – (ALL AT £5.95)
Othello (Powerful)
Airbase Invader (Arcade)
Golfing World (best available)
Draughts (very strong program)
Backgammon (excellent)
Yatzee (well-known dice game)

NEW

FOR OTHER COMPUTERS

AMSTRAD		COMMODORE	
Bridge Player	£9.95	Bridge Player II	£9.95
Draughts	£8.95		
Backgammon	£8.95	**SINCLAIR QL**	
3-D Voice Chess	£12.95	Bridge Player II	£18.95

SPECIAL OFFER! . . . £1 off any two programs, £2 off any three, etc . . .

WANTED: Strong and original programs of an intelligent nature for any of the above computers. Top royalties paid by this reliable company.

MAIL ORDER Simply state which programs and send cheque, postal order or Access/Visa number (with expiry date). Telephone for instant credit-card orders. Send SAE for catalogue and return postage for submitted programs.

DELIVERY by soonest post. Post free in UK. Europe add 80p per program. All other places add £1 per program for surface mail or for Airmail add £2 for first program and £1 for each additional.

CP SOFTWARE 15 Despard Road, London N19 5NP. Telephone (01) 272 2918

Bungle in the jungle

Cutting his way through the dense, dark adventure forests Richard Price finds that the terror of the temple is only a cheap thrill

Illustration: David Pugh

UNLESS YOU HAPPEN to be one of the lucky few whose games are taken on by one of the big companies with their huge advertising muscle, being a creator of home-grown adventures can be a very isolating experience.

These days very few top price games are marketed without graphics and, although the **Quill** *and its various supporting programs can deliver excellent and fast presentations, it is still very difficult to sell an 'amateur' game to anyone beside the budget software houses — Atlantis and Pocket Money Software are two companies which spring to mind.*

Things get even tougher if you have used a text-only format, because some of the main retail outlets simply won't sell plain text games any more. Even large and very fine games like **Mordon's Quest** *don't have the profit potential of arcade games.*

This is a shame, but it's just a reflection of market forces, economic reality, blah, blah — you've heard it all before and you are no doubt as sick of the sound of it as I am. I still happen to think that text adventure, with or without graphics, is one of the most satisfying and challenging types of software.

So what are you going to do to get your game to that great and waiting public? If all else has failed you're only left with mail order. Whilst that is unlikely to make you a million it may get you known, especially if you're prepared to take the risk of sending games for review — there's one in the column this month. People like Delta Four got started this way and, if you've got a quality product, there's always the chance that some professional outfit will want to buy and market your game.

Which brings me to the point — I'm always prepared to review adventures whether they're mega-games or put together in the spare bedroom. If a game is finished, entertaining and fairly original, and if you can guarantee to supply copies to your buyers without hitches then I'll do my best to persuade old Incorruptible to include them in the column.

I think it's one way to keep adventure alive and kicking, to introduce new talent and to keep the big cheeses of the software industry on their toes. But please, not too many vampires and silver bullets — the undead have been done to death too many times.

Temple Terror

IN THE steaming depths of some remote tropical rain-forest, Archie the Adventurer is on a desperate mission.

Daughter Jane, it seems, is at death's door, suffering from an unnamed incurable disease. Standard medicine offers no hope of a recovery.

This depressing news has persuaded Archie to don his backpack and shorts and brave the jungles in search of a newly-discovered temple. Rumour has it that a fabled elixir of health is secreted in the temple's innermost depths. Others have already tried to unravel the mystery of the temple but, ominously, have never been heard of again.

So off goes our Archie and, at the beginning of **Temple Terror** from Atlantis, finds himself sweltering in the blazing sun at the entrance to the rearing bulk of the crumbling edifice. The heart-rending plot conceals a game which is really a straightforward exploration of the temple.

There are only three locations outside the temple and you will quickly discover that the sacred spot has already suffered at the barbarian hands of football supporters — some enigmatic graffiti produce the unlikely message 'Northampton for the Cup'.

The temple is entered easily enough by way of a moveable rock and you will soon find a light source and the mouldering remains of the other unfortunate explorers. Amongst their effects are handy items, like matches. There's a scroll with a useful message and, lo and behold, the only room with a carpet has a trapdoor beneath it to take you further into the building. There's a fire that blocks your way and a vampire to chill your bones.

After you've overcome your excitement you can then solve a monstrously simple code to enter the Elixir Room, indulge in a bit more jiggery-pokery to beat a forcefield and find a way out before the temple collapses.

Input is standard verb/noun and the action is text-only. There are the usual Save/Load facilities, a couple of abbreviations like T for Take and a reasonable response rate. There isn't really any need for much sophistication in the machinery as the game is so simple and direct. The descriptions are mainly two-liners.

The game is written entirely in Basic, and the action is very linear with one problem succeeding another in quick succession. The puzzles are not at all original and seem to own much to early Artic games — what would you do with a blanket when a fire blocks your way?

There are also not many locations, about 40 on my count. This does not make for a mind-bogglingly complex adventure if you're an experienced traveller through mysterious temples. On the other hand, if you're new to adventures and want to break yourself in gently and cheaply, the game is pleasant enough. Definitely for the novice, but the price bumps up the rating.

Richard Price

Publisher Atlantis
Price £1.99 **Memory** 48K
★★★

Murder Hunt

BODKIN SOFTWARE is the cover name for two young adventure writers, Craig Davies and Mark Hale. Using the old-style **Quill** they produced their first version of **Murder Hunt** sometime last year and got a short review in one of the weekly computer comics.

A few people bought the game, a text-only adventure, and Bodkin has now tried to sharpen the presentation with the aid of **The Patch**, introducing some sound effects and screen colour.

In the remote hamlet of Keggly dwells Father Paddy Murphy, stereotypical priest of St Ivan the Terrible church. One day, whilst the good-hearted pastor is fixing a hole where the rain gets in his church, the idyllic peace of this country backwater is shattered by a scream of pure terror.

In the graveyard below Paddy sees the body of his gravedigger George and goes down to investigate. George has been brutally murdered and a newspaper beside his body reveals that a "homicidal murderer" — well he would be, wouldn't he — has gone over the wall at nearby Studmore Prison. The last report was that he was heading in the general direction of Keggly.

Obviously he has now arrived and his bloody footprints lead

away from the graveyard into the woods around the village. Paddy sets off in pursuit and the hunt is on.

The plot is straightforward but the game is reasonably complicated. You begin your search in the churchyard and, after acquiring a few objects of uncertain use, head off into the wilds of Keggly and its neighbouring parishes to find the dastardly and cold-blooded killer.

A second killing awaits your attention

► 73

Illustration: David Lloyd

Quasimodo's ding-dong derring dos rattle the rafters in...

HUNCHBACK THE ADVENTURE!

...a text-teaser world where no 'modo has lept before! Go on... take a swing at it!

SPECTRUM 48K £7·95 £8·95 AMSTRAD COMMODORE 64

Ocean Software is available from selected branches of: WHSMITH John Menzies WOOLWORTH LASKYS Rumbelows Greens Spectrum Shops and all good software dealers. Trade enquiries welcome.

ocean

Ocean Software Limited
Ocean House · 6 Central Street · Manchester · M2 5NS · Telephone 061 832 6633 · Telex 669977 Oceans G

down the lane. A search of the victim's clothing will give you a useful magic charm but you will have to spend some time quartering the fields, farmhouses and stately homes to get through to the murderer's hiding place. There are locked gates to break through, stone circles to investigate and a number of red herrings and pitfalls — literally — to negotiate.

The inhabitants of Keggly are not all predictable either — the reclusive aristocrat who lives in Haley Hall is quite likely to do you in if you trespass on his property and his servants are just as violent if you don't mind your manners. The tenant of the windmill up on the hill is thoroughly unpleasant and the only really nice person is the deaf old lady who runs the village shop. When you're totally stuck just remember that she will sell you absolutely anything you need provided you've got the cash for it — otherwise forget it.

You'll come a cropper many times before you capture the murderer. When you do find him you will have to return him to a suitable place of imprisonment before the game is over — that too has its problems, so don't be over-confident.

There are about 75 locations with good descriptions and plenty of action in a non-linear scenario. The countryside has a real feel to it: "You are at the top of 'Satan's Footstool'. In the centre of the hill is one large stone which is surrounded by 20 rectangular stones which have stood there since prehistoric times. They are known as Hell's-End Stones and are laden with superstition."

Messages too are atmospheric: "The charm is made of silver and is suspended on a silver chain. It is shaped like a moon with a sword of sacrifice sticking in the left side. This insignia is often attributed to black magic."

Touches like this give the game a high level of playability. Clues and objects are scattered far and wide and the game is carefully written with a certain macabre relish for the subject matter.

All told this game is good value and certainly comes top when compared to the other budget software reviewed this month. If you fancy a **Murder Hunt** you could do a lot worse than sending your £2.50 to Bodkin Software, 16 Carr Lane, Hambleton, Blackpool FY6 9AZ.

Richard Price

Publisher Bodkin Software
Price £2.50 inc. p&p **Memory** 48K
★★★★

ADVENTURE

The Hollow

THIS IS ONE of Gilsoft's back-to-back Quilled adventures, text-only on one side and graphic version on the other.

Although both games have the same title they're different enough to make you feel you've bought two games for the price of one — it's not simply a matter of repeating the same commands with each program.

First the text game. Long ago in the land of Moylan a wizard took power by imprisoning Light and Dark inside a single perfect stone. Then he split the stone and put the Darkness inside the greater part. The Light he banished to a far corner of Moylan and used his dark power to rule without mercy or humanity.

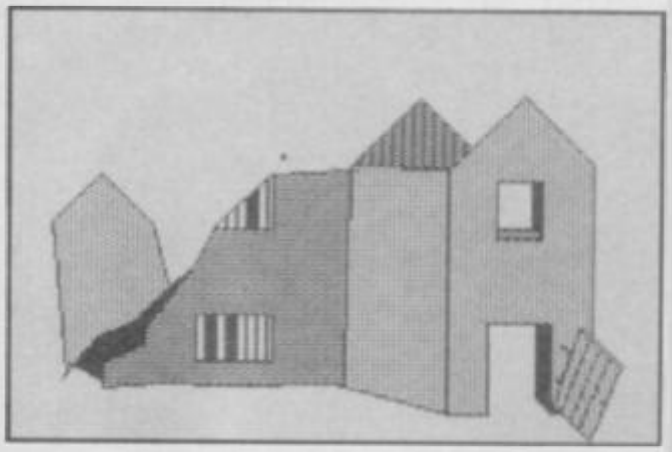
Time lost its grip over the kingdom and a changeless decay set in. Only the joining of the two pieces of the perfect stone will return the land to life and health.

Your aim is to discover both parts of the stone and also to collect the seven remaining pieces of a magical medallion. Three are in your possession when you begin your quest. When all ten are united you may have enough mystic power to confront the wizard in his lair at the heart of Moylan's endless twilight, and thus take back the stone of Darkness.

The adventure begins on a cliff path somewhere in the west country. You are heading back to your holiday hotel, anxious no doubt to consume vast quantities of grub and lashings of ginger beer. Suddenly the path becomes unfamiliar and a strange cold seeps through your anorak. At your feet are the three fragments of a medallion.

Stranger still is the message nearby which tells you that magic can open every door and, if you gaze over the cliff, you will see weird riders with hunting trophies slung from their belts.

The opening sequence leads you into a derelict house. Careful examination of the door will give you magical powers which will be sorely needed on your journey. The stone of light is also here and you can now cross the threshold of reality into Moylan itself. "For as far as you can see a smooth, featureless wall encircles the ancient town of Moylan. A large iron gate has been set into the wall. Above the gate a dragon, cast in rough metal, looks down as guardian of the town."



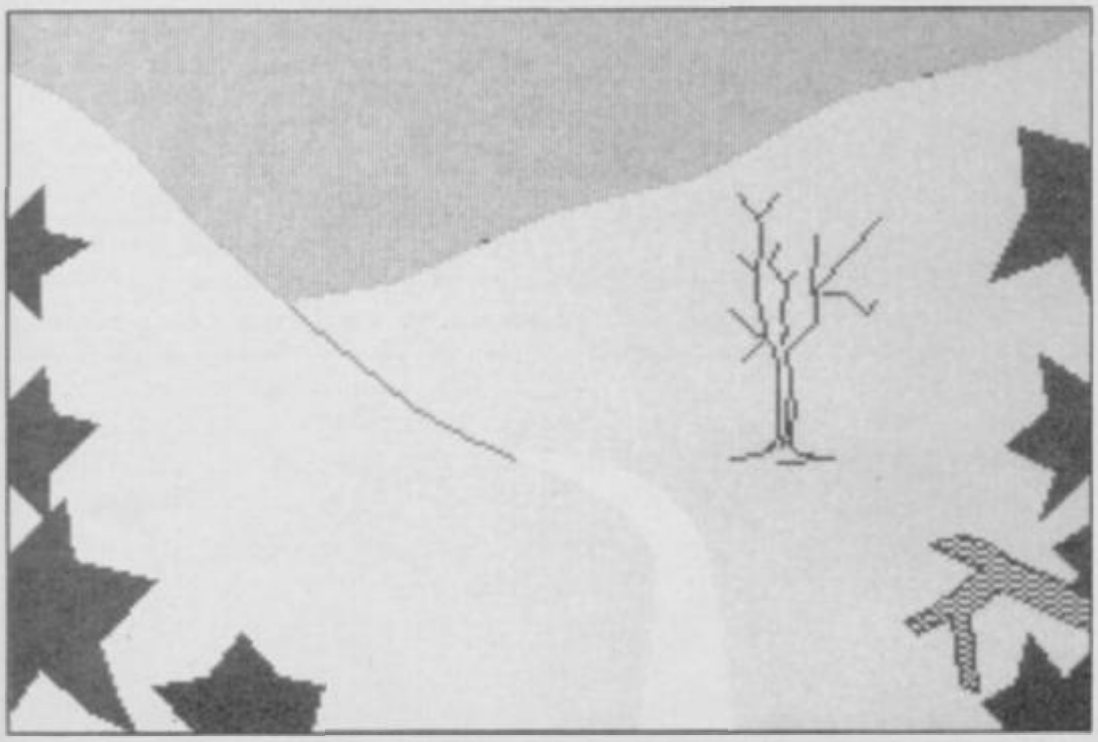
Descriptions like this give the game a highly charged and dreamlike quality, and help to create a desolate landscape of shifting, ominous shadows where lethal surprises are commonplace. Almost everything seems threatening — pools ripple without wind, flowers have overpowering scents.

As you move in towards the centre of the evil the darkness increases and perils multiply. Snakes writhe, undergrowth rustles, volcanoes rend the earth and wolves scavenge in graveyards. And what desperation created this object: "At the meeting place of the roads a huge crystal lens stands on a plinth. The rays of the sun are fainter here but the power of the lens intensifies them so much that the point of focus glows with heat. You shade your eyes and look into the glow"?

In the second, graphic game the plot and presentation are quite different — to vanquish the Magician you must find and take his Sword of Judgement as well as collect the many items of treasure placed around the landscape. This adventure is pre-**Patch** and the location graphics are full-screen, drawn with the **Illustrator**.

Play commences in another derelict house but it has now become a major location. Through it you can enter another enchanted land complete with stone

► 75



VISA ACCESS — SPEEDYSOFT — EUROCARD MASTERCARD

01-846 9353 (24 HRS)

WE ALWAYS TRY TO SEND YOUR PROGRAMS ON THE SAME DAY WE GET YOUR ORDER, THAT'S WHY IT'S CALLED SPEEDYSOFT! All programs normally in stock before we advertise them! FOREIGN ORDERS WELCOME, satisfied customers in 64 countries for over 3 years. UK prices include VAT: export prices are the same, plus p&p, because of the extra work involved. Pay by sterling cheque, bank draft or postal order. All orders must be prepaid: we send your programs as soon as we get your money! It's faster to order by phone from any country with your VISA, EUROCARD, MASTERCARD or ACCESS. Call 01-846 9353, 24hrs, 7 days a week. ALL PROGRAMS FOR SPECTRUM AND SPECTRUM+. (At presstime, we still haven't seen a 128!) BIG FREE ILLUSTRATED CATALOGUE WITH EVERY ORDER: DETAILED REVIEWS, LOAD TIMES, WHAT THE CRITICS SAID, ETC.. Send £1.00 (refunded with your first order) for catalogue only.

"YOU MUST BE THE FASTEST IN THE WORLD"
(Luke Hallard, London)

DESERT RATS

"A most impressive package and, like 'Arnhem' before it, a good place for the as yet uncommitted to wargaming to begin." (Popular Computing Weekly 01/86) Reconstructs the North Africa Campaign from the arrival of Rommel's Afrika Korps in Tripoli to the end of the second Battle of El Alamein. For 1 or 2 players. Choose to fight the whole campaign or one of the major battles. 3 skill levels. No Stick. (CCS) Cassette £9.95

SPITFIRE 40

"The first flying simulation on which I have ever shot down an enemy, not because it's easy, but because I thought it worthy of perseverance. It's the best flight simulator I've played." (Amtix 02/86) "Lets you fly the classic warplane in both training flights and full combat. The game is marked by extraordinarily detailed graphics." (Popular Computing Weekly 12/85) 5 skill levels, 3 different pilots for each level and a choice on each of practice, combat practice or full combat. Sticks OK. State 48K or 128K. (Mirrorsoft) **Cassette £9.95**

LASER BASIC

THE SIMPLEST WAY TO CREATE ARCADE GAMES WITH MUSIC AS WELL AS SOUND AND ACTION! *"Brilliant new games-writing aid ... The manual is thankfully comprehensive and easy to follow ... more than just a games designer, it's a major shot in the arm for your computer, driving it to new heights of performance." (Popular Computing Weekly 01/86)* Includes extended interpreter, sprite/graphic designer, 255 pre-defined sprites, a sound generator and a very full demo. Plus 132-page manual and a written Help service. (Ocean/Oasis) **Two Cassettes £14.95**

THE ART STUDIO

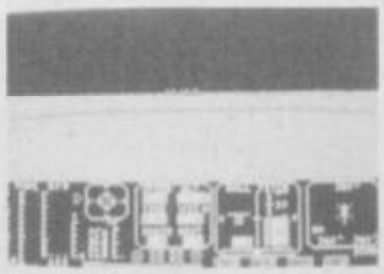
"Certainly the best graphics program ever designed for the Spectrum." (Popular Computing Weekly 12/85) "The program really makes the Z80 chip sing ... performed just like MacPaint on the Macintosh." (Personal Computer World 11/85) "Contains a printer driver which handles most compatible Spectrum printers. IT IS AN EXTREMELY POWERFUL UTILITY which should be of use to professional artists and designers as well as the home user." (Sinclair User 10/85) Works with keys, sticks or AMX mouse. 58-page illustrated manual. **Cassette £14.95**

Desert Rats

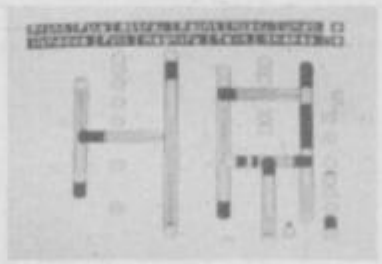
AMX Mouse

Nato Alert

Spitfire 40



Tomahawk



The Art Studio

AMX MOUSE

"A complete professional package that stands amongst the best on any computer ... remarkable value." (Sinclair User 02/86) "Using the program is great fun and can be learned literally within minutes." (A&B Computing 01/86) Your mouse plugs into the joystick port. You also get 4 programs on cassette (AMX ART, PATTERN DESIGNER, CONTROL and ICON DESIGNER) which are tape/disc or tape/microdrive transferable. **Save £10.00 on recommended price. Pay only £59.95.**

MOVIE

"The playing style of the game is as much puzzle-solving as it is dodging obstacles ... it really is a most intriguing and stylish game and extends yet further the boundaries of what an arcade adventure can be. Excellent and reasonably priced." (Popular Computing Weekly 02/86) By now there are probably lots more rave reviews for this remarkable detective movie. Sticks OK. (Imagine) **Cassette £7.95**

BRIDGE PLAYER 3

Allows proper ACOL bidding, including Stayman and Blackwood conventions. Plays both your opponents hands. SAVE TO MICRODRIVE. Computer can be declarer or defender: post-mortem routine improves your game. PRINTOUT. All legal bids. No Stick. (CP Software) **Cassette £12.95**

FREE M'CART BOX!

Buy 20 of the new improved, more reliable Microdrive cartridges at once for just £2.00 each and we'll put them in a smart black plastic box which holds all 20 and has room in the lid for an index, FREE!. The boxes link up if you have several to form a very neat filing system. (Cartridges by Sinclair: box by Transform) **20 CARTS IN A BOX £40.00**

THE MICRODRIVER Mk2

"If you have a microdrive, the Microdriver is the most important piece of hardware you could buy." (Sinclair User 11/85) "Using the Microdriver is a dream ... the device is a must for the serious microdriver." (Crash 11/85) Transfers every program we have tried from tape to microdrive at the press of a button. (Mirage) **Plug-in Microdriver £39.95**

TOMAHAWK

"A SUPERB SIMULATION, with plenty of action for games lovers." (Sinclair User 12/85) "An extremely well put together piece of software. Impressively presented and documented. And, on top of that, it's got real atmosphere ... destined to become a classic." (Computer & Video Games 02/86) Choose from 4 missions, 4 skill levels. Sticks OK. (Digital Integration) **Cassette £9.95**

"QUITE SIMPLY, YOU'RE THE BEST"
(G. Murrow, Edinburgh)

Animated STRIP POKER

"I have to admit the game did make my palms sweat ... it would stand up on its own for the poker alone." (ZX Computing 08/85) "Very compulsive ... the scene where the girl removes her dress is well done." (Amstrad User 06/85) **Cassette £6.95**

NATO ALERT

Simulation of a non-nuclear conflict in Europe between NATO and Warsaw Pact forces. 1 or 2 players. Choice of 21 levels determines length of game. Horrifyingly realistic. Map graphics help make this one of our most popular wargames. (CCS) **Cassette £5.95**

IF YOU DO NOT WISH TO CUT THIS MAGAZINE, PLEASE WRITE YOUR ORDER OUT CAREFULLY ON PLAIN PAPER AND QUOTE REFERENCE 'SU41.'

POST TO: SPEEDYSOFT (SU41)
37 CHURCH ROAD, LONDON SW13 9HQ, ENGLAND.
For CATALOGUE ONLY, send £1 cash. Refunded with your first order.
My computer is ..... I enclose a cheque/PO payable to SpeedySoft OR charge my VISA/ACCESS/EUROCARD/MASTERCARD

No. ☐☐☐☐ ☐☐☐☐ ☐☐☐☐ ☐☐☐☐

Signature: _____ Expiry Date _____
Please write clearly. If we can't read it, you won't get it.
Name: _____
Address: _____

_____ Postcode: _____
PHONE NO: if any, in case of query _____

4-86

Program Name	Price
Postage & Packing: UK add £1.00 per order	
Europe ADD £1.50 per program	
Outside Europe ADD £2.00 per program	
Total Order	

73 ◀ circles, giant worms, underground caverns and dying vegetation. There are familiar objects like a lamp, flint and so on but there are also items whose uses are enigmatic — pruning shears, flies, salt, ice. Whatever their uses you must travel on into the undying darkness, into unnatural evil and magic.

In this version the text is obviously less full and the pictures draw and redraw fairly slowly. Newer Quilled games, which use **The Patch**, have now overcome this problem to a considerable degree but the

pictures here do tend to intrude.

Both games are well-constructed with evocative and intelligent descriptions and puzzles. The **Quill** interpreter is as fast as ever and help is provided. In both games you will need to explore widely before solving the major problems and neither are likely to be solved in an afternoon.

Richard Price

Publisher Gilsoft
Price £5.50 **Memory** 48K
★★★★

ADVENTURE

Runestone

RUNESTONE appeared in the middle of last year and was then a Games Workshop production. It was the first text adventure to combine landscaping graphics with full text input.

It also offered the chance to play three characters, Elf, Wizard and Warrior in their fight against the swarming orc-hordes of Kordomir the Dark One. The setting was a Midnightish world of battles and quests, a place where other subsidiary characters could be persuaded to join you in your fight against evil and the dark forces.

Firebird has now snapped the game up, revamped the graphics, smoothed off some of the edges and speeded the proceedings by rewriting some of the slower bits of the program. They've also put it in a striking package with parchment-style maps, fancy instructions and an outer box with lots of hunky heroes and red edging to catch your eye on the shelf — marketing psychology is a wondrous thing.

The scenario and game-play is essentially the same but the overall effect is of a considerable improvement in playability, thanks to the increased speed of the responses and the simple change of colour of the text areas. It's now comfortably dark, instead of the earlier glaring white, and that helps to keep your attention on the game rather than on the pain in your eyeballs.

The graphics have more colour than before and the character you are currently playing is shown as a head to the right of the landscape. These changes are not significant in themselves but do make the game seem more polished than the first release.

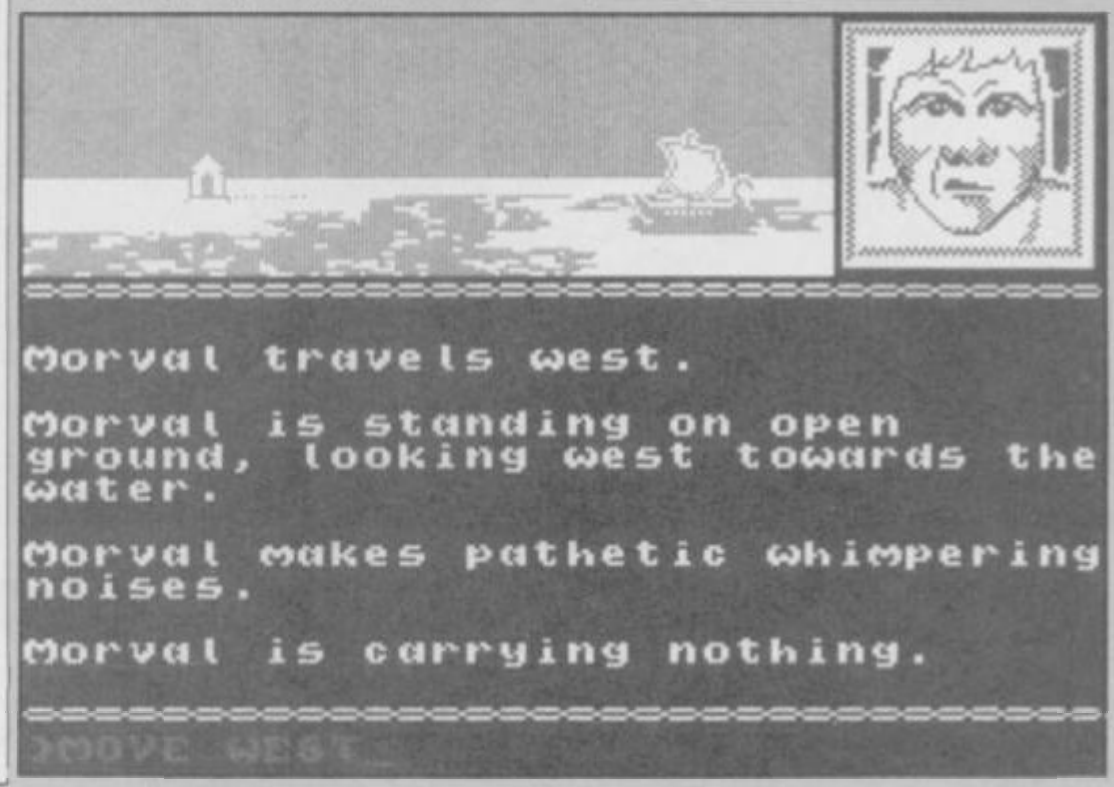
The world of Belorn is a complicated place with systems of exchange, combat, magic and thievery. The text interpreter is very competent, so you can attempt most things even if you only get a response like "Morval scratches his head and wonders what to do next".

You can follow the quests, travel or go on orc-bashing safaris if you're in a macho frame of mind.

The new, improved **Runestone** is now in very good shape, looking and playing a whole lot smoother than before. What's more, it's being sold at the same price as the first version. To my mind that means it deserves an uprating on its previous four stars.

Richard Price

Publisher Firebird
Price £7.95 **Memory** 48K
★★★★★


Morval travels west.
Morval is standing on open ground, looking west towards the water.
Morval makes pathetic whimpering noises.
Morval is carrying nothing.
>MOVE WEST_

BARGAIN SOFTWARE: FREEPOST

Dept. Su., Unit 1; 1 Esmond Road; London W.4. 1BR

BUY BY PHONE
RING 01-995 2763

PRICE PROMISE

If you wish to purchase any product from our list and find that you can buy the same product cheaper from another mail order company, simply enclose the lower amount, stating the name of the other company and where you saw the advert. (It must be a current issue). Price Promise does not apply to other companies "Special Offers".

ORDERS OVER £30 DEDUCT 10%

	REC. PRICE	OUR PRICE
SUPERBOWL	9.95	7.40
SKYFOX	8.95	6.70
BOUNCERS	9.95	7.40
SUPERMAN	9.95	7.40
"V"	7.95	5.90
STREETHAWK	7.95	5.90
KNIGHT RIDER	7.95	5.90
GERRY THE GEM	7.95	5.90
PING PONG	7.95	5.90
SHOWJUMPING	9.95	7.40
ENIGMA FORCE	9.95	7.40
SIR FRED	9.95	7.40
BATTLE OF THE PLANETS	9.95	7.40
COMMANDO	7.95	5.90
BARRY McGUIGAN'S BOXING	7.99	5.95
LORD OF THE RINGS	15.95	11.90
THINK	7.95	5.90
THREE WEEKS IN PARADISE	9.95	7.45
TURBO SPORT	8.95	6.70
YIE AR KUNG FU	7.95	5.90
ROLLER COASTER	6.95	5.20
SWEEVO'S WORLD	7.95	5.90
SABOTEUR	8.95	6.70
COSMIC WARTOAD	7.95	5.90
GUNFRIGHT	9.95	7.45
TOMAHAWK	9.95	7.45
MOVIE	7.95	5.90
ROCK 'N' WRESTLE	8.95	6.70
TRANSFORMERS	7.95	5.90
INTERNATIONAL KARATE	6.50	4.90
WINTER GAMES	7.95	5.90
GLADIATOR	7.95	5.90
TWISTER	7.50	5.45
FRIDAY 13th	8.95	6.70
MILKIE	7.95	5.90
ELITE	14.95	11.20
BACK TO THE FUTURE	9.95	7.45
WEST BANK	7.95	5.90
N.O.M.A.D.	7.95	5.90
RAMBO	7.95	5.90
TAU CETI	9.95	7.45
BACK TO SKOOL	6.95	5.20
ROBIN OF THE WOOD	9.95	7.45
LEGEND OF THE AMAZON WOMEN	7.95	5.90
CYBERUN	9.95	7.45
ZOIDS	7.45	5.90
BALL BLAZER	7.99	5.90
BLADE RUNNER	8.95	6.70
ZORRO	7.95	5.90
THE GOONIES	7.95	5.90
STARSTRIKE II	7.95	5.90
HUNCHBACK THE ADVENTURE	7.95	5.90
ARC OF YESOD	9.95	7.45
RUNESTONE	7.95	5.90
WAY OF THE TIGER	9.95	7.45
BEACH HEAD II	7.95	5.95
GYROSCOPE	7.95	5.90
GEOFF CAPES STRONGMAN	7.95	5.90
IMPOSSIBLE MISSION	7.95	5.90
BOUNTY BOB STRIKES BACK	7.95	5.90

COMPILATIONS	REC. PRICE.	OUR PRICE
THEY SOLD A MILLION SABRE WULF JET SET WILLY BEACH HEAD DALEYS DECATHLON	9.95	7.45
ARCADE HALL OF FAME RAID!! BLUE MAX ROCCO FLAK HUNCHBACK II	9.95	7.45
SPORTS PACK SNOOKER ON THE OCHE WORLD CUP FOOTBALL OLYMPICS (14 events) GOLF DERBY DAY	36.00	5.99
SELECT HUNCHBACK SPACE INTRUDERS MR. WIMPY KONG TRANSVERSION MISSILE DEFENCE POOL DENIS THROUGH THE DRINKING GLASS MOON BUGGY SPECTRES METEOR STORM TIME GATE	12.99	4.99
VALUE PACK COSMIC CRUISER B.C. BILL PEDRO ZZOOM ZIP ZAP ALCHEMIST	9.99	4.99
NOW GAMES 2 CHUCKIE EGG 2 AIRWOLF TIR NA NOG WORLD CUP CAULDRON	8.95	6.70

	REC. PRICE	OUR PRICE
WORM IN PARADISE	9.95	7.45
CRITICAL MASS	8.95	6.70
PANZADROME	7.95	5.90
SURF CHAMP	11.95	8.25
FORBIDDEN PLANET	7.95	5.95
2112 AD	7.95	5.90
FIGHTING WARIOR	7.95	5.90
TERRORMOLINOS	7.95	5.90
WAY OF THE EXPLODING FIST	8.95	6.70
WINTER SPORTS	9.95	7.45
SWORD & SORCERY	9.95	7.45
NEVER ENDING STORY	9.95	7.45
ASTRO CLONE	7.95	5.90
THEIR FINEST HOUR	9.95	7.45
WORLD SERIES BASKETBALL	7.95	5.90
SPY vs SPY	9.95	7.45
F. BRUNO'S BOXING	6.95	5.20
DAMBUSTERS	9.95	7.45
SOUTHERN BELLE	7.95	5.90
MONOPOLY	9.95	7.45
CLUEDO	9.95	7.45
SCALETRIX	9.95	7.45
FAIRLIGHT	9.95	7.45

SPECIAL OFFERS		
VIEW TO A KILL	10.99	3.99
GREMLINS	9.95	3.99
CODE NAME MAT II	8.95	3.99
ALIEN	9.95	3.99
GREAT SPACE RACE	14.95	3.49
VALHALLA	14.95	3.99
EUREKA	14.95	3.99
DEATH STAR	7.95	3.49
QUICKSHOT II		5.95

ROCKFORDS RIOT	9.95	7.45
ABU SIMBEL (PROFANATION)	7.95	5.90
SHADOW OF THE UNICORN	14.95	11.20
MARSPORT	9.95	7.45
FRANKIE GOES TO HOLLYWOOD	9.95	7.45
RASPUTIN	7.95	5.90
MONTY ON THE RUN	7.95	5.90
G. GOOCHS TEST CRICKET	9.95	7.45
SPEC DRUM	29.95	26.95
THE ART STUDIO	14.95	11.20
THE YOUNG ONES	7.95	5.95
SHADOWFIRE	9.95	7.45
HYPER SPORTS	7.95	5.95
INTERNATIONAL BASKETBALL	6.95	4.90
NOW GAMES (6 top titles)	8.95	6.70
MEGA HITS (10 top titles)	9.95	7.45
COMPUTER HITS 10 (10 top titles)	9.95	7.45
MACADAM BUMPER	7.95	5.90
ENDURANCE	7.95	5.90
STARQUAKE	7.95	5.90
KNIGHTLORE	9.95	7.45
TIR NA NOG	9.95	6.50
LASER BASIC	14.95	11.20

BARGAIN SOFTWARE ORDER FORM (No stamp necessary inside British Isles)

Please send me the following titles. BLOCK capitals please!

Type of computer _____

Title:—	Amount
Total Enclosed £	

Name .....

Address .....

.....

.....

.....

Tel. No. .....

Please make cheques or postal orders payable to **BARGAIN SOFTWARE.**
Prices include P&P within the U.K: Europe please add £0.75 per tape:
Elsewhere please add £1.00 extra per tape

▲ ▼ ◀ ▶ F1 F2

+ COMCON

COMCON
Programmable Joystick Interface for the Spectrum

Simple and fast programming: Plug the six function connectors into the required Spectrum key positions - Ready!

Supports joysticks with two independent fire actions: Photon Blasters and Neutron Bombs at the touch of your fingertips.

Extension port for combined use of peripherals.

Compatible with all Atari-type joysticks including Quickshot II (without rapid fire option).

Select key functions anytime - even when the game is already loaded.

£19.95 incl. VAT + P&P

COMCON TWIN JOYSTICK INTERFACE

Two port version allows connection of two joysticks for sequential two player games using same key positions (non-independent!)

£22.95 incl. VAT + P&P

QUICKSHOT 2+2 JOYSTICK

modified to incorporate 2 independent fire actions and no rapid fire option

£11.95 incl. VAT + P&P

FLIGHTLINK HOTSHOT JOYSTICK

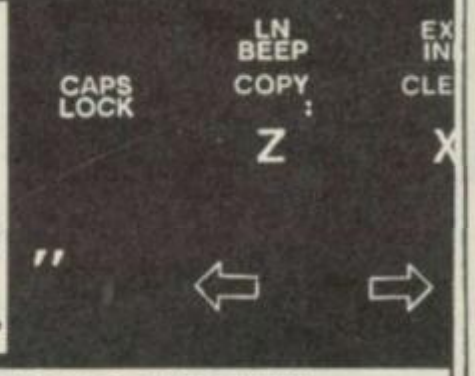
with two independent fire actions

£8.95 incl. VAT + P&P

DIGIT

Provides a professional tactile feel to your Spectrum Plus by removing the dreaded rubber membrane. Kit comes complete with a manual for easy conversion. Stop wingeing and moaning . . . DIGIT!

£9.50 incl. VAT + P&P



FOR EACH COMCON OR COMCON TWIN ORDERED TOGETHER WITH A QUICKSHOT 2+2 OR FLIGHTLINK HOTSHOT JOYSTICK A COMBINATION DISCOUNT OF £2.00 MAY BE DEDUCTED.

ALSO AVAILABLE FROM SELECTED RETAIL OUTLETS

Mr./Mrs./Miss: _____

Address: _____

_____ Postcode: _____

Qty	Code	Item	Item Price	Total £
	01	Comcon Interface	£19.95	
	02	Comcon Twin Interface	£22.95	
	03	Quickshot 2 + 2 Joystick	£11.95	
	04	Flightlink Hotshot Joystick	£ 8.95	
	05	Currah uSpeech Unit	£21.95	
	06	Digit keyboard improver	£ 9.50	
	07	Less Combination Discount	− £ 2.00	
I enclose a cheque/postal order made payable to Frel Ltd. for:				£

Send to:

FREL LTD. 1 Hockeys Mill, Temeside, Ludlow, Shropshire SY8 1PD

DEALER ENQUIRIES WELCOME: PHONE LUDLOW (0584) 4894

TROJAN CAD-MASTER™

THE ULTIMATE IN GRAPHICS TOOLS

SUPERB GRAPHICS SOFTWARE PLUS A TOP QUALITY LIGHT PEN

COMMODORE 64 SPECTRUM

Discover the exciting world of creating your own graphics on screen.

- **FREEHAND DRAW** - 5 pen thicknesses incl. Quills
- **PAINT BRUSH** - for the artistic touch
- **FILL ANY SHAPE** - use all colours and patterns
- **GEOMETRIC SHAPES** - circles, boxes, triangles, lines & banding
- **DYNAMIC RUBBER BANDING** - on all geometric options
- **PIN-POINT FUNCTION** - for pixel accuracy on all functions

Plus many more too numerous to mention in this ad. All these features in the Program + a top quality Light Pen and an Instruction booklet in one reasonably priced package. Easy to use for creating colourful pictures or technical drawings. Ideal for use by all ages of micro users. Full back-up service from manufacturers. Available at good dealers or direct from Trojan Products. *Please state which Micro.*

ONLY £19.95 per pack.

TROJAN

Micro Computer Software & Accessories
Send cheque/P.O. to
TROJAN PRODUCTS
166, Derlwyn, Dunvant, Swansea SA2 7PF
Tel: (0792) 205491.
TRADE ENQUIRIES WELCOMED

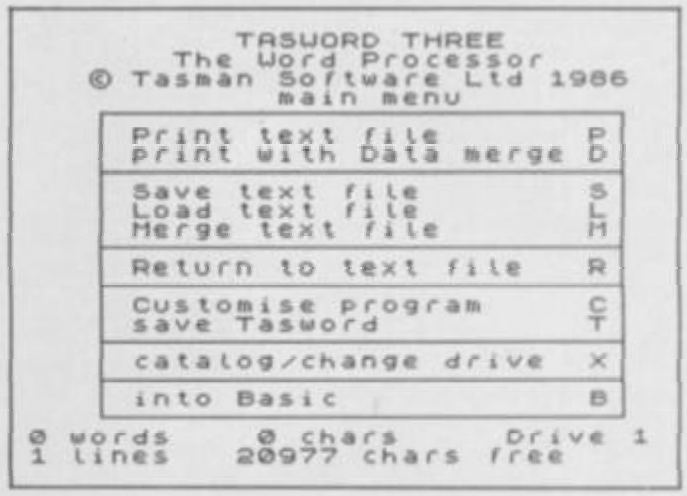
When you've caught the comet...

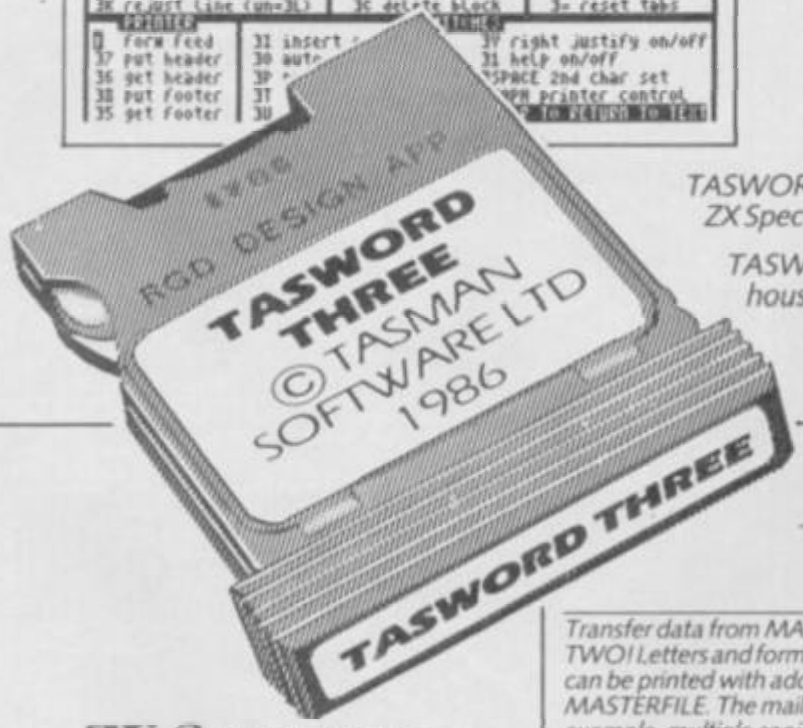
COMET

FIREBIRD

TASWOR

THE WORD PROCESSOR – A NEW STANDARD FOR THE





TASWORD TWO led the way in setting a standard for word processing on the ZX Spectrum. TASWORD THREE pioneers the new standard.

TASWORD THREE retains all the features which have made Tasword Two a household name for the Spectrum. With many additional features and enhancements, including a built-in mail merge and up to 128 characters per line, TASWORD THREE is the definitive word processor for the Spectrum and Spectrum+ with microdrive.

ZX SPECTRUM
TASWORD TWO
THE WORD PROCESSOR

TASWORD TWO for the ZX 48K Spectrum cassette £13.90 microdrive cartridge £15.40

"Without doubt the best utility I have reviewed for the Spectrum"
HOME COMPUTING WEEKLY APRIL 1984
"If you have been looking for a word processor, then look no further" CRASH JUNE 1984
With 64 characters per line on the screen and a host of useful features TASWORD TWO is the ideal cassette based word processing package for the Spectrum owner.

TASPRINT
THE STYLE WRITER

TASPRINT for the ZX 48K Spectrum cassette £9.90 microdrive cartridge £11.40

A must for dot matrix printer owners! Print your program output and listings in a choice of five impressive print styles. TASPRINT utilises the graphics capabilities of dot matrix printers to form, with a double pass of the printhead, output in a range of five fonts varying from the futuristic Data-Run to the hand writing simulation of Palace Script. A TASPRINT gives your output originality and style! The TASPRINT fonts are shown to the right together with a list of compatible printers.

TASMERGE
THE MAIL MERGER

TASMERGE for the ZX 48K Spectrum cassette £10.90

Transfer data from MASTERFILE to TASWORD TWO! Letters and forms typed on TASWORD TWO can be printed with addresses and data taken from MASTERFILE. The mail merge facility allows, for example, multiple copies of a letter to be printed, each containing a different name and address taken from your MASTERFILE data. To use TASMERGE you must have one or more microdrives as well as TASWORD TWO and MASTERFILE by Campbell Systems (version 9 or later).

TAS-DIARY
THE ELECTRONIC DIARY

TAS-DIARY for the ZX 48K Spectrum and microdrives. Cassette £9.90

Keep an electronic day-to-day diary on microdrive! TAS-DIARY includes a clock, calendar, and a separate screen display for every day of the year. Invaluable for reminders, appointments, and for keeping a record of your day. The data for each month is stored as a separate microdrive file so that your data for a year is only constrained by the microdrive capacity. TAS-DIARY will work for this year, next year, and every year up to 2100! Supplied on cassette for automatic transfer to microdrive.

TASMAN PRINTER
INTERFACE

TASPRINT PRINTER INTERFACE for the ZX Spectrum £29.90
RS232 Cable for ZX Interface 1 £14.50

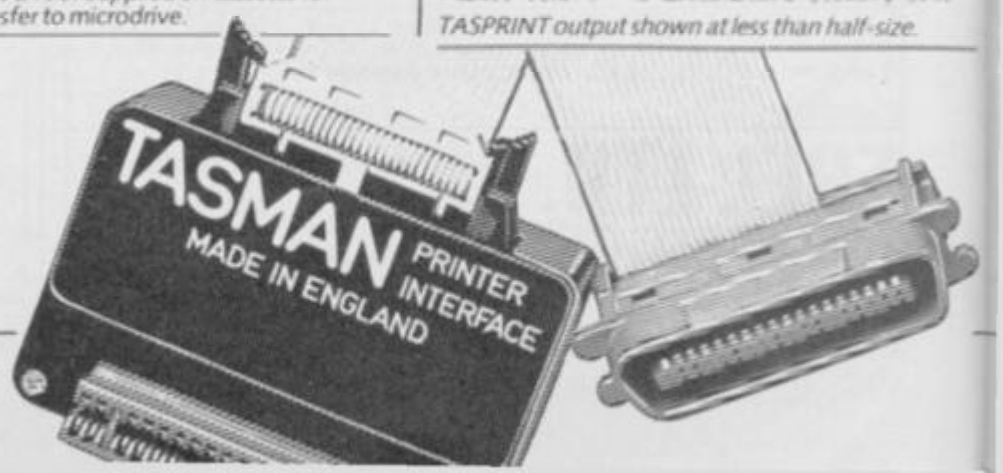
Plug into your Spectrum and drive any printer fitted with the Centronics standard parallel interface. Supplied complete with ribbon cable and driving software. The user changeable interface software makes it easy to send control codes to your printer using the method so successfully pioneered with TASWORD TWO. The cassette contains fast machine code high resolution full width SCREEN COPY SOFTWARE for Epson, Mannesmann Tally, Shinwa, Star, Tandy Colour Graphic (in colour!) printers. TASCOPY shaded screen copy software for this interface (value £9.90) is INCLUDED in this package.

The TASCOPIES and TASPRINTS drive all Epson compatible eight pin dot-matrix printers e.g.

AMSTRAD DMP 2000	NEC PC8023B-N	BROTHER M1009
EPSON FX-80	MANNESMANN TALLY MT-80	BROTHER HR5
EPSON RX-80	STAR DMP501/515/5610	SHINWA CP-80
EPSON MX-80 TYPE III	COSMOS-80	DATAC PANTHER
		DATAC PANTHER II

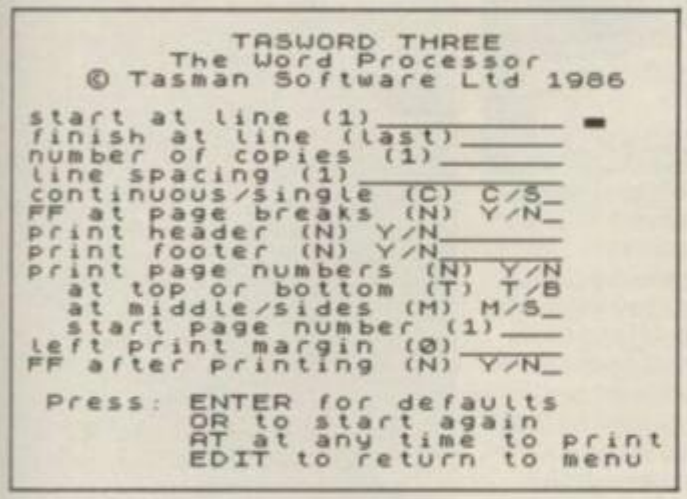
COMPACTA - bold and heavy, good for emphasis
DATA-RUN - A FUTURISTIC SCRIPT
LECTURA LIGHT - clean and pleasing to read
MEDIAN - a serious business-like script
PALACE SCRIPT - a distinctive flowing font

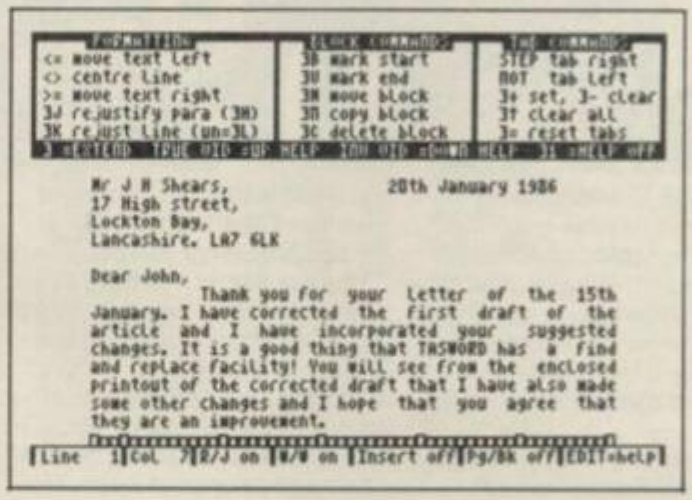
TASPRINT output shown at less than half-size.



D THREE

E ZX SPECTRUM AND ZX SPECTRUM+ WITH MICRODRIVE


TASWORD THREE
The Word Processor
© Tasman Software Ltd 1986
start at line (1)
finish at line (last)
number of copies (1)
line spacing (1)
continuous/single (C) C/S
FF at page breaks (N) Y/N
print header (N) Y/N
print footer (N) Y/N
print page numbers (N) Y/N
at top or bottom (T) T/B
at middle/sides (M) M/S
start page number (1)
left print margin (0)
FF after printing (N) Y/N
Press: ENTER for defaults
OR to start again
AT at any time to print
EDIT to return to menu


FORMATTING
<= move text left
<> centre line
>= move text right
JJ rejustify para (JR)
JK rejust line (un=JL)
BLOCK COMMANDS
JB mark start
JU mark end
JM move block
JC copy block
JK delete block
TAB COMMANDS
STEP tab right
BOT tab left
J+ set, J- clear
JT clear all
J= reset tabs
20th January 1986
Mr J H Shears,
17 High street,
Lockton Bay,
Lancashire. LA7 6LX
Dear John,
Thank you for your letter of the 15th January. I have corrected the first draft of the article and I have incorporated your suggested changes. It is a good thing that TASWORD has a find and replace facility! You will see from the enclosed printout of the corrected draft that I have also made some other changes and I hope that you agree that they are an improvement.
Line 1 Col 7 R/J on W/W on Insert off Pg/Bk off EDIT=help

Please note that TASWORD THREE is only supplied on, and will only run on, microdrive.

TASWORD THREE – THE WORD PROCESSOR – Microdrive £16.50

One of a famous family: TASWORD TWO (ZX Spectrum), TASWORD MSX (MSX Computers), TASWORD 464 (Amstrad), TASWORD 464-D (Amstrad), TASWORD 6128 (Amstrad), TASWORD EINSTEIN (Tatung Einstein), TASWORD 64 (Commodore 64)

Available from good software stockists and direct from Tasman Software, Springfield House, Hyde Terrace, Leeds LS2 9LN. Tel: (0532) 438301

TASCOPY
THE SCREEN COPIER

TASCOPY for the ZX Spectrum with Interface 1 cassette £9.90 microdrive cartridge £11.40

The Spectrum TASCOPY is for use with the RS232 output on ZX Interface 1. It produces both monochrome (in a choice of two sizes) and large copies in which the different screen colours are printed as different shades. With TASCOPY you can keep a permanent and impressive record of your screen pictures and diagrams. A list of printers supported by TASCOPY is given to the left.

TASWIDE
THE SCREEN STRETCHER

TASWIDE for the ZX 48K Spectrum cassette £5.50

With this machine code utility you can write your own Basic programs that will, with normal PRINT statements, print onto the screen in the compact lettering used by TASWORD TWO. With TASWIDE you can double the information shown on the screen!

SINCLAIR QL
QL is a trademark of Sinclair Research Ltd

TASCOPY QL
THE SCREEN COPIER

TASCOPY QL for the Sinclair QL microdrive cartridge £12.90

TASCOPY QL adds new commands to QL Superbasic. Execute these commands to print a shaded copy of the screen. Print the entire screen or just a specified window. TASCOPY QL also produces large "poster size" screen copies on more than one sheet of paper which can be cut and joined to make the poster.

TASPRINT QL
THE STYLE WRITER

TASPRINT QL for the Sinclair QL microdrive cartridge £19.95

TASPRINT QL includes a screen editor used to modify files created by other programs, such as QUILL, or by the user from Basic. These modified files include TASPRINT control characters and may be printed, using TASPRINT, in one or more of the unique TASPRINT fonts.

Available from good stockists and direct from:

Tasman SOFTWARE

Springfield House, Hyde Terrace, Leeds LS2 9LN. Tel: (0532) 438301

If you do not want to cut this magazine, simply write out your order and post to: TASMAN SOFTWARE, DEPT SU, SPRINGFIELD HOUSE, HYDE TERRACE, LEEDS LS2 9LN

I enclose a cheque/PO made payable to TASMAN Software Ltd OR charge my ACCESS/VISA number: .....

	ITEM	PRICE
NAME		£
ADDRESS		£
		£
	Outside Europe add £1.50 per item airmail	£
Telephone Access/Visa orders: Leeds (0532) 438301		TOTAL £

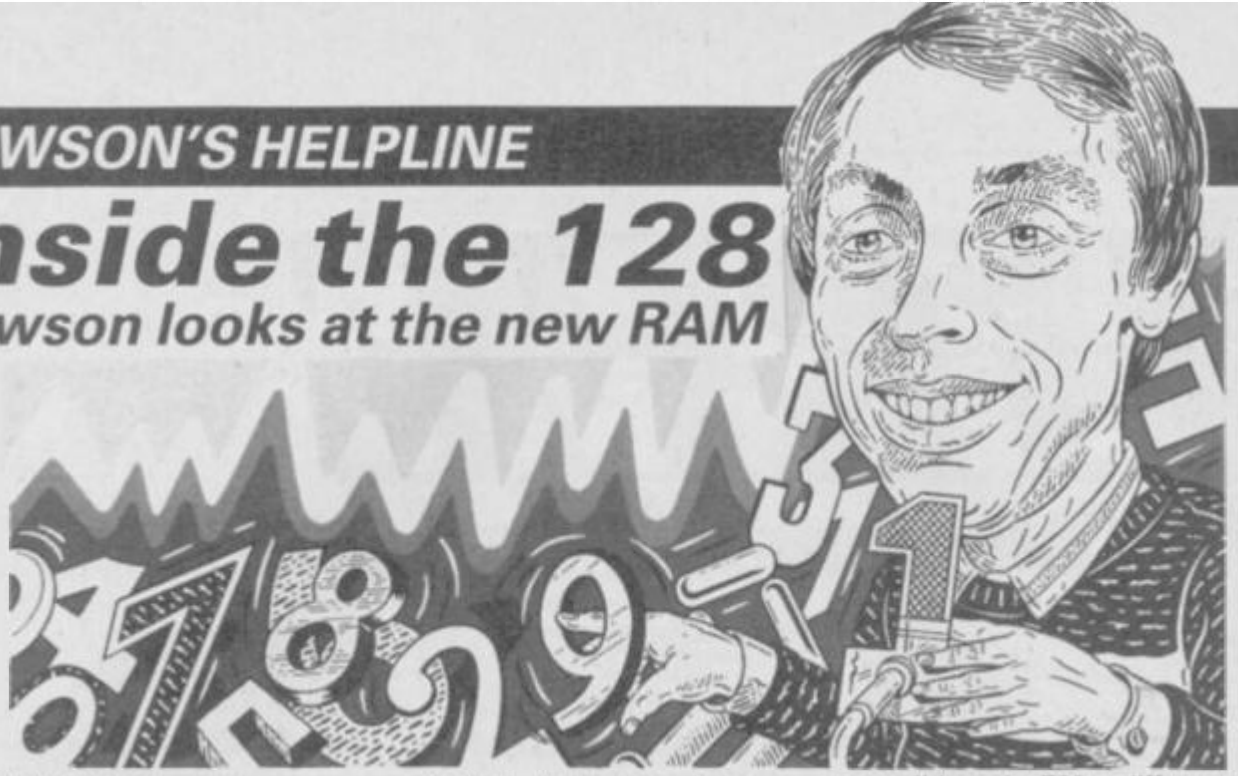
Please send me a FREE Tasman brochure describing your products for: Spectrum____ QL____ MSX____ Amstrad____ Commodore 64____ Tatung Einstein____ SU

Sales: The following distributors of Tasman products may be contacted for the address of local suppliers. Many products are supplied in translated form. FRANCE & SWITZERLAND Semaphore Logiciels, CH 1283 La Plaine, Geneva. SCANDINAVIA Kelly data, Postboks 43, Kirkstad, Oslo. NETHERLANDS Filosoft, PO Box 1253, 9701 BJ Groningen. GERMANY Profisoft, Softhauser Str 50-52, D-4500 Osnabruck. BELGIUM Easy Computing, Avenue Guillaume Lefevre 30, 1160 Brussels. PORTUGAL Informiva, Campo Grande 28 4 A, 1700 Lisbon. AUSTRALIA Dolphin Computers, 99 Reserve Road, Artarmon, New South Wales 2064. NEW ZEALAND Software Supplies, PO Box 80, Christchurch. U.S.A. Ramex International, 17620 26 Mile Road, Washington MI 48094.

Contact Andrew Hewson

Inside the 128

Hewson looks at the new RAM



AS I WRITE Sinclair has announced its new machine. I have known about it for some time, in common with a number of other software companies in the UK. However, we have all been bound by agreements not to breathe a word about it to the public.

Now the gag is off I thought you might like to know a bit more about using the machine for writing programs. The principle advantages are the extra memory which is available, the second screen memory and the new sound chip.

The extra RAM memory is a little difficult to get at, even when writing in machine code. This is because the total of 128K of RAM is divided into eight banks of 16K but the Z80 microprocessor can only address 64K of memory at a time, and that includes the 16K of ROM at the bottom of the address space.

In the new computer there are ten possible banks of 16K to be addressed, two banks of ROM and eight banks of RAM. The bottom 16K of address space is always used by one or other of the two ROMs, the next 16K can only be used by RAM bank number five, the next by RAM bank number two and the top 16K by any one of the eight RAM banks. Thus it is possible, although not particularly sensible, to have either of RAM bank numbers five and two accessible to the Z80 at different places in the memory simultaneously.

What would be more useful would be to have any one of the eight RAM banks appearing at any one of the three possible positions above the ROM, or, better still, appearing instead of one of the ROMs. Instead we are stuck with shuffling data back and forth via the top 16K of the memory map.

A new facility which will be of interest to machine code programmers is the second bank of RAM which may be used to hold the screen display. In the Spectrum the screen always resides at address 16348 — hex 4000. In the new machine this part of memory is in RAM bank number five. However, the new machine also supports the use of RAM bank number seven for screen memory.

Unfortunately RAM bank number seven may only appear at the top of memory as explained above. This does

How random is random?

THIS MONTH'S LOOK at the system variables focuses on the SEED variable stored at address 23670. This number is used by the RND function to kick off the next random number calculation.

Creating random numbers in a computer is a funny business because strictly speaking it cannot be done at all. A computer is a machine which executes a series of stored instructions and given that the starting point is the same and the instructions are the same it will always obtain the same result. A random element is not permitted to creep in.

The usual way of getting round this problem is to use a sequence of instructions, or algorithm, which when fed a number, chops it around and rearranges its component parts rather like shuffling a pack of cards. In the jargon of the trade this is called 'hashing.'

Numbers which won't add up

THERE'S ONE TOPIC which appears in my postbag with the same kind of regularity as those infernal competition offers from *Reader's Digest*. Every mortal has his cross to bear, and the rounding error seems to be mine.

On this particular occasion it is John Jennings of Staines who is suffering from rounding errors. He clearly did not read my article in the May 1982 issue of *Sinclair User* when I first wrote about the problem! He includes a copy of the program which is giving him trouble and I have listed it in table one. The screen display when the program is executed is shown in table two.

John writes: I typed this test program into the Spectrum Plus demonstration model at a local branch of W H Smith and got the same result as with my own machine.

I really want to know whether there is a fault in my machine or whether this is a quirk of the Spectrum.

It is not a fault with the machine and it is only a quirk of the Spectrum in the sense that the computer tries in a rather half-hearted fashion to hide a problem with the nature of arithmetic from ordinary users. The problem is related to the fact that it is impossible to express some fractions exactly without rounding errors.

For example, we all know the following statements are incorrect:

⅓=0.3
⅓=0.33
⅓=0.333

No matter how many trailing threes we place at the end of the number the result is still incorrect, even if only slightly. We are so familiar with this example that we no longer consider it worthy of comment or investigation.

In this regard we are no different from the ancient Romans who no doubt knew that their system of numerals was cumbersome but were happy to persist with it.

Unfortunately, because the decimal representation serves us well in everyday life we somehow assume that the inaccuracy in the number one-third is a property of the number rather than the method by which we choose to represent it. In fact it is easy to show that it is the method of representation which is at fault, not the number itself.

If we had been created with six fingers on each hand rather than five then we would presumably count in groups of 12. In maths jargon we would count to base 12. When counting to base 12 the following statement is true:

⅓=0.4

That is easy to understand if you remember that the column following the decimal point when counting in base 12 is the twelfths column, and four-twelfths equals one-third.

However, counting to base 12 is not immune to problems. The fraction one-fifth, for example, which is equal to 0.2 in decimal can only be exactly represented in base 12 by 0.24972497 . . . followed by endless repetition of the four digits 2497.

No matter what base you choose there will always be some fractions which cannot be represented exactly. There are even some numbers — such as pi, the ratio of the circumference of a circle to its diameter — which cannot be

Table 1. John Jennings' test program demonstrating the effect of rounding errors

```
10   LET X = 3
20   FOR I = 1 TO 10
30   LET X = X - 0.5
40   PRINT X
50   IF X = 2.5 THEN PRINT "Two point five"
60   IF X = -1 THEN PRINT "Minus one"
70   NEXT I
```

The aim is to create a pseudo random number and a seed number. The seed can then be fed through the same algorithm to produce the next random number. Sometimes the seed for the next calculation is the preceeding random number. Mathematicians have had fun in the past devising a number of hashing algorithms and then proving that the sequence of numbers created by them are more or less random.

The Spectrum random number generator uses the calculation:

Random number = (75*(SEED+1)−1)/65536

You can prove that by choosing some whole number as a seed and then comparing the result of the calculation with:

```
10 RANDOMIZE SEED
20 PRINT RND
```

To finish off the exercise keep an eye on the SEED system variable at address 23670. You will see that, as its name suggests, it is this location which is used to store the seed for the next calculation.

suggest the possibility of building a picture off-screen and switching it in more or less instantaneously, rather than copying it laboriously to 16384.

Those readers who are well-informed about machine-code programming will know that, because the hardware needs to get at the screen memory to maintain the screen picture 50 times per second, programs run more slowly when placed in the lowest RAM bank. This problem affects only one of three banks of RAM in the ordinary Spectrum but four out of the eight banks in the 128.

The new sound chip is a great blessing because it allows the programmer to set up some effects and then go away and get on with executing some other code rather than, as with the Spectrum, forever having to go back and toggle the loudspeaker at the correct moment. The effect transmitted through the TV speaker is also rather better than the old telephone-in-a-cardboard-box generated by the Spectrum.

Of course the price to pay for better sound is the extra work involved in setting up the registers with channel, amplitude, tone and envelope data. The manufacturers have identified an entry point in the second ROM by which the machine code programmer can access the music system provided by the new Basic Play command. That is similar in principal to the way in which RST 16 can be used in the ordinary Spectrum ROM to use the facilities of the Print command from machine code.

exactly represented in any base.

Of course those inexactitudes do not normally matter because we are happy to accept a number which is approximately correct as exact. The trick is to build in acceptance of tiny but irrelevant differences. In particular you should not, as John Jennings has done in lines 50 and 60 of his program, demand equality in any comparison.

Table 2. The output from the program listed in Table 1

```
2.5

Two point five

2

1.5

1

0.5

2.3283064E-10

-0.5

-1

-1.5

-2
```

The program illustrates how the Spectrum disguises the problem of rounding errors in its printing routine except for numbers which are very close to zero. Thus we do not know if there are rounding errors in the calculation of 2, 1.5, 1, 0.5, −0.5, −1, −1.5 and −2 because the print routine rounds off the numbers to the first half dozen or so significant figures, discarding any rounding error as it does so.

But the number zero has no leading significant figures by definition, so the Spectrum has no way of knowing where truth ends and rounding error begins.

Hence it prints what it has stored away, which is a number which is not quite zero but is smaller than one divided by a thousand million. The poor old computer, because it isn't human, doesn't realise that John Jennings is going to be very perplexed by this result.

SHEKHANA COMPUTER SERVICES

SPECTRUM	RRP	OUR PRICE	SPECTRUM	RRP	OUR PRICE
Bombjack	7.95	5.90	Any Maistertronic Title	1.99	1.99
Elite	14.95	11.95	Hobbit	14.95	11.95
Star Quake	7.95	5.95	Arnhem	9.95	7.95
Sowrderons (Elindor)	9.95	7.50	Monopoly	9.95	7.50
Lord of the Rings	15.95	12.95	Winter Games	7.95	5.95
Fairlight	9.95	7.50	Beach Head II	7.95	5.95
Dun Darach	9.95	7.50	The Rats	7.95	5.95
Shadowfire-Tuner		3.99	Daley Toms Superfast	6.95	5.50
Spy Hunter	7.95	5.90	Fighting Warrior	7.95	5.95
Robin of the Woods	9.95	7.50	Yabba Dabba Doo	7.95	5.95
Superman	9.95	7.50	Terrormolinos	7.95	5.95
Knightshades (Ultimate)	9.95	7.50	Barry McGuigans	9.95	7.95
Diary Of Adrian Mole	9.95	7.50	Yie Ar Kung Fu	7.95	5.95
Max Headroom	9.95	7.50	Spitfire 40	9.95	7.95
Star Strike	5.95	4.75	Mini Office	5.95	4.99
Animated Strip Poker	6.95	5.75	Rasputin	7.95	6.95
Fairlight II	9.95	7.50	Codename Matt II	8.95	6.75
Way of the Exploding Fist	8.95	6.75	Artist	12.95	10.50
Big Daddy Rock & Wrestle	8.95	6.75	Alien 8	9.95	7.50
Rescue From Draculas	7.95	5.95	Bruce Lee	7.95	5.95
Bounder	7.95	5.95	Critical Mass	8.95	6.75
Gyroscope	7.95	5.95	Shadowfire 2 (Enigma Force)	9.95	7.50
F.Brunos Boxing	6.95	5.25	Impossible Mission	7.95	5.95
Crash Smashes (4 games)	9.95	7.50	Harvey Smith Jumping	7.95	5.95
Southern Belle	7.95	5.95	Technician Ted/128K	9.95	7.50
Wham The Juke Box	9.95	7.50	Sweevo's Whorled/128K	9.95	7.50
Fighter Pilot	7.95	5.90	Geoff Capes Strong Man	7.95	5.95
World Series Basketball	7.95	5.95	Gladiator/128K	9.95	7.50
Inter. Karate	6.50	4.99	Zoids	7.95	5.95
Pentagram	9.95	7.50	The Young Ones	7.95	5.95
Hypersports	7.95	6.75	Terrormolinos	7.95	5.95
Monty on the Run	7.95	5.95	Highway Encounter	7.95	5.95
Mugsey's Revenge	7.95	5.95	Saboteur	8.95	6.75
Worm in Paradise	9.95	7.50	*Transformers	7.95	5.95
They sold a Million	9.95	7.50	Rambo	7.95	5.95
Marsport	9.95	7.50	Never Ending Story	9.95	7.50
Spy v Spy	9.95	7.50	Ram Turbo Interface	22.95	18.00
Commando (Elite)	7.95	5.95	Quick Shot II Joystick		8.99
Star Strike II	7.95	5.95	Back to Skool	6.95	5.50
Jet Set Willy II	6.95	5.25	Friday the 13th	8.95	6.75
Arcade Hall of Fame	9.95	7.50	Tau Ceti	9.95	7.50
Heavy on the Magic	9.95	7.50	Roller Coaster	6.95	5.25
Tomahawk	9.95	7.50	Winter Sports	7.95	5.95
Sweevos World	7.95	5.95	Sir Fred	9.95	7.50
Three Weeks in Paradise	9.95	7.50	Three Weeks Paradise/128K	10.95	7.95
Cyberun (Ultimate)	9.95	7.50	Swords and Sorcery	9.95	7.50
I. of The Mask	9.95	7.50	Mikie	7.95	5.95
Zorro	7.95	5.95	*The Way of the Tiger	9.95	7.50
Block Busters Gold Run	9.95	7.50	The Force	9.95	7.50
Sky Fox	9.95	7.40	Legend of the Amazon Women	7.95	5.95
Superbowl	9.95	7.50	Strike Force Harrier	9.95	7.50
Artist II	14.95	12.95	Movie	7.95	5.95
Goonies	7.95	5.95	Desert Rats	9.95	7.50
Turbo Esprit	8.95	6.75	Daley Super Test/128K	9.95	7.50

All prices include P&P in UK. Europe add £1 per tape. Elsewhere at cost.
Cheque/PO payable to: **S.C.S (SIUS) PO Box 394 London N15 6JL.**
Telephone 01-800 3156. SAE for list. *Please ring for availability.
Come and see our latest games on video; we subscribe to Bulletin 1000.
If you would like to pick up your discount software from our shop please bring your copy of this advert to our shop at
*Compucentre, Unit 5, 221 Tottenham Court Road, London W1.
(Near Goodge Street Station).
Open 6 days a week 10.00-18.00.
Barclaycard and Access hotline
ring 01-631 4627 only.
Credit Card orders dispatched same day
(subject to availability).

Access VISA

NOW 4TH GREAT YEAR!

HIRE SPECTRUM and ZX81 TAPES

HUGE RANGE!
ADVENTURE GAMES
ARCADE and SIMULATION GAMES
BUSINESS and PRACTICAL PROGRAMS
UTILITIES
FROM OVER 70 TOP SUPPLIERS

LIFE MEMBERSHIP £5·00

TAPE HIRE 90p INCLUDING VAT and POSTAGE

Join the ORIGINAL SOFTWARE LIBRARY

- the longest-established and most progressive in the world
- vast selection of tapes of all kinds—adventure, arcade, simulations and mind games, educational and a huge range for home and business uses
- all tapes **guaranteed** to load
- friendly, helpful service—often imitated but never equalled—with over 6,000 satisfied members
- save pounds on accessories, too
- easy-to-choose catalogue **FREE** to members (£1.50 to non-members, refunded in full when you join)
- Access welcome on 0730 892732
- return-of-post service assured by our unique 10MB control system
- still only £5 to join, 90p to hire any tape **inclusive** of VAT and postage
- undoubtedly the best overall deal

WHY SETTLE FOR LESS?

To: SOFTWARE LIBRARY, Farnham Road, West Liss, Hants GU33 6JU.
NAME.....Machine.....
ADDRESS.....
.....
I enclose £5 cheque/P.O./cash; please send my membership pack by return. **Overseas**: send no money—let us forward your details to the nearest branch in W.Germany, France, Holland, Belgium, Ireland, Scandinavia, Italy, Swaziland.
SU

THE ORIGINAL SOFTWARE LIBRARY!

DIRECTORS: ALEC FRY, A.R.P.S., F.R.S.A. and ERNA FRY, B.A.

TRANSFORM LTD. Business Software

EUROELECTRONICS ZXL PRINT III CENTRONICS - RS232 PRINTER INTERFACE

Interface £34.95
Cable £9.95
inc VAT

nables your Spectrum computer (16 or 48K) to print on almost any dot matrix or daisy wheel printer with RS232 or Centronics input. Just plug in ZXLprint III and LPRINT and LLIST commands will work. COPY works without any software on Epson, Star Delta, Brother HR5 & 1009, Gemini, Walters WM80, Mannesman MT80, Kaga Taxan, Cannon, Shinwa, Seikosha 100, 250 & 500. Plus Seikosha GP700 in FULL COLOUR. Also available is optional COPY in 4 colours on CGP115, MCP40 & 80 and SCP80.
No additional software needed — RAM is free to take Tasword 2, Masterfile, OCP +80 software, Kemp Business Accounts etc.

- **WORD PROCESSING • PLUG IN FOR LLIST, LPRINT & COPY**
- **PRINTS SPECTRUM GRAPHICS & UDG's • HIGH RESOLUTION SCREEN DUMPS • TWO COPY SIZES ON EPSON & COMPATIBLES**
- **PRINTS PRESTEL FRAMES WITH SUITABLE MODEM**
- **COMPATIBLE WITH MICRODRIVES & INTERFACE 1**

Now available!
RGB INTERFACE
£45.00

SPECTRUM 48K BUSINESS SOFTWARE

BUSINESS PACK. £14.95p
This suite of programs includes Sales Day Book, Purchase Day Book and Business Bank Account. These programs are being used by over 1000 companies to produce VAT and annual accounts; the Purchase and Bank Account programs allow for analyses under 17 subheadings. The Sales programs produce statements of outstanding invoices. Both Sales and Purchase programs calculate VAT.

INVOICING. £15.00p
This program will print out invoices, calculates discounts and VAT. The program will calculate totals from unit prices. Up to 50 accounts with 250 outstanding invoices.

SALES/PURCHASE LEDGER INVOICING £25.00p
This program is for use on microdrive or Opus Disc only. The program will print an invoice using a built-in price list and post the invoice to your customer's account. Will also print price list, statements, labels, etc.

New WORDPROCESSING

TASWORD THREE by Tasman £16.90p
This new version of Tasword is supplied on microdrive with the following features: 128 column print out, tabs, page footers, buffered typing, page headers, full insert mode, built mail merge.

TASPRINT by Tasman Software £9.90p
Use this program with Tasword Two to produce 5 different fonts on a dot matrix printer.

PAYROLL

PAYROLL £19.95p
This payroll program will handle up to 40 employees and will calculate NIC, PAYE, superannuation and many other deductions. This is a very user friendly program and extremely good value.

STOCK CONTROL

STOCK CONTROL. £10.95p
Handles 900 lines, including details of supplier. Program has full search facilities enabling you to search and update all lines from one supplier.

DATABASES

MASTERFILE by Campbell Systems £14.95p
This is one of the best database programs available for the ZX Spectrum. This program has many uses in a small business.

SUPERFILE. £14.95p
This is a new database program that stores pages of text 64 columns x 22 rows. The program includes word processing and full search facilities.

V-NOTCH. £12.95p
Index and Catalogue System, for collections of photographs, recipes, books, knitting patterns, stamps, etc. Up to 3500 items per file full search facilities.

SPREAD SHEET

OMNICALC 2 by Microsphere £14.95p
This is the long-awaited micro-drive version of omnicalc complete with histograms and many other features.

BUSINESS GRAPHICS

HISTO-GRAPH. £10.95p
This program will enable you to present figures in histograms or pie charts. Displays 3 years as a direct comparison or 5 years to show a trend. A unique feature of this program is that all the figures can be printed with the histogram.

UTILITIES

DLAN by Campbell Systems £7.95p
Use your Spectrum to sell your products. Dlan will display messages in up to 11 different typefaces. Will scroll text in any direction.

TASWIDE by Tasman Software £5.50p
You can use this program within your other programs to display 64 columns on screen.

MF-PRINT by Campbell Systems £6.95p
Enables you to set a print format for your full-size printer within masterfile. Supplied complete with masterfile for **£19.95**.

TASMERGE by Tasman Software £10.95p
Allows you to transfer data from Masterfile into Tasword enabling you to use Tasword for mail merge. The program allows you to specify line and column of each field. For use on micro-drive only.

TRANSEXPRESS by Romantic Robot £9.95p
Micro-drive utility program which will enable you to back-up all your micro-drive cartridges.

TASCOPY by Tasman Software £9.90p
This program allows you to produce 3 sizes of screen copy using Interface 1.

New **SUPADRIVE**
This program supplied on microdrive allows you to format a cartridge on the spectrum with 100-105K, retrieve corrupted files or print a full catalogue showing addresses and start lines. £9.95

ACCESSORIES

Blank microdrive cartridges	£1.99p
Microdrive storage boxes	£5.95p
RS 232 lead	£11.50p
Monichrome monitor connector	£11.50p
RGB monitor connector	£45.00p
Centronics interface	£44.90p
3½" floppy discs	£4.81p
Continuous Paper 2000 sheets	£12.98p
Continuous labels 1000	£6.65p

Add £1.00 post for labels. £3.00 post for paper.

MONITORS

Phillips 7502

	Ex VAT	Inc VAT
Phillips Black and Green	£75.00p	£86.25p
Sinclair QL Vision	£215.00p	£247.25p
Spectrum Monitor Connector	£10.00p	£11.50p

PRINTERS

DOT MATRIX		
Brother M1009	£129.82p	£149.30p
Epson LX80	£199.00p	£228.85p
Taxan Kaga	£250.00p	£287.50p
DAISY WHEEL		
Brother HR10	£245.80p	£282.67p
Brother HR15	£349.44p	£401.86p

Telephone for prices on other printers. Please add **£5.75p** for delivery on both printers and monitors.

DISC-DRIVES

Discovery 1 by Opus 178k	£199.95p
Discovery 2 by Opus 360k	£329.95p

QL

MAILING LIST. £14.95p
This program will allow you to quickly store and retrieve names and addresses from within ARCHIVE. Features include single key functions, prints address labels, exports files to Quill for mailing list; also compatible with our stockcontrol file.

STOCK CONTROL. £14.95p
Keeps a complete record of all your stock items including retail price, trade price, minimum order level, items on order and many other features.

INTEGRATED ACCOUNTS. £89.95p
This new program from Sinclair will allow you to produce full profit and loss account.

PAYROLL. £63.25p
Calculates weekly, monthly or 4-weekly payroll full tax calculations, coin analysis and payment rounding.

CENTRONICS INTERFACE	£29.95p
RS 232 LEAD	£10.00p
MONICHROME MONITOR LEAD	£5.00p

Access

TRANSFORM LTD (Dept. SU) 01-658 6350
24, West Oak, Beckenham, Kent BR3 2EZ

VISA

GILSOFT INTERNATIONAL LTD.

The Quill & Illustrator

The Graphic Adventure Writing System for The Spectrum, Commodore and Amstrad.

Available on cassette and disc

~The Quill without any knowledge of programming will allow you to write high quality text adventures

From £14·95

~The Illustrator is a companion to The Quill used to create Hi-Resolution pictures for your adventures.

From £14·95

The Quill

is also available for the Oric 1/Atmos and shortly for the Atari and BBC B/Electron

Buy it with Access

BARCLAYCARD VISA

Credit Card order line manned 24 Hours — 0222-41361 ext. 430

Please rush me details of The Quill & Illustrator and other products in your range for ..... (specify Machine). I have enclosed a S.A.E.

Name .....

Address .....

.....

.....

S/4/86

GILSOFT, 2 Park Crescent, Barry S. Glam. CF6 8HD Tel. 0446-732765

BETA BASIC 3.0

SINCLAIR USER, JAN. 85 (ABOUT RELEASE 1.8): "HAS ESTABLISHED ITSELF AS THE STANDARD EXTENDED BASIC FOR THE SPECTRUM.....TURNS SINCLAIR BASIC FROM A GOOD VERSION OF THE LANGUAGE TO A FANTASTIC ONE...." NOW, WITH RELEASE 3.0, BETA BASIC BECOMES PROBABLY THE MOST POWERFUL BASIC AVAILABLE ON ANY 8-BIT MICRO!

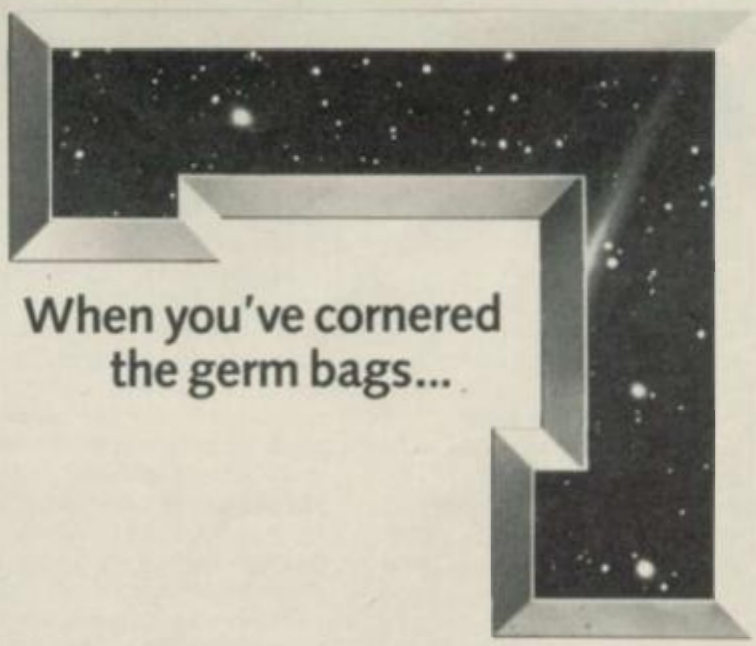
- PROCEDURES - a very full implementation that lets you extend Basic easily. With parameter passing by value or by reference (including arrays), LOCAL variables, recursion, DEFAULT parameter values, and the ability to handle parameter LISTS of any length. No PROC keyword is needed; e.g. you can use things like: swop a,b or draw_box 10,20,5 or addup b(),sum.
- GRAPHICS - up to 128 WINDOWS, each with its own character size (giving 1-64 chars/line!) and attributes. ROLL and SCROLL any part of the screen by any number of pixels in any direction! Use GET to store parts of the screen, then put them back anywhere at different magnifications. Fast FILL, ALTER attributes, PLOT strings, DRAW TO a point, change scale and origin.
- TOOLKIT features: Renumber with block move or copy; block DELETE, search and/or change (e.g. ALTER apples TO a). 36 User-defined keys. List the variables, list a procedure, list DEF KEYs.
- EDITOR - lets you move the cursor around the screen 10 times faster! And you can move the cursor up and down within edited lines. AUTO, EDIT, JOIN and SPLIT commands.
- LISTINGS with optional automatic indentation of loops, IF, procedures etc. Works on existing programs e.g. you can choose to list:
  10 FOR n=1 TO 10: PRINT n: NEXT n
  as:
  10 FOR n=1 TO 10
  PRINT n
  NEXT n
- KEYWORDS can all be entered by typing them in full, or by the "single entry" method, or both in the same line; e.g. the line: 10print"hello":if x=1 THEN goto 100 will be recognised and listed normally.
- Upgrades to Release 1.8 customers: If you bought direct from us, there is no need to return your cassette - just quote the (approximate) original purchase date with your order; otherwise return your cassette and name your supplier. The upgrade price of £6.95 (£7.50 overseas) includes a new manual.
- ARRAY and string handling features include fast INSTRING (100,000 chars/sec) and INARRAY search functions. You can JOIN arrays together, delete, transfer and insert sections, change dimensions without data loss. LENGTH function gives dimensions. Ultra-fast array SORT - e.g. a$(500,30) will sort in about 3 seconds!
- MICRODRIVE commands let you use simple forms, or exactly the same commands you normally use for tape - just enter DEFAULT =m1 or m2. Some possible Microdrive commands: SAVE "name", ERASE "name", LOAD !, "name", SAVE 10 TO 100; "part prog", SAVE a "slicer" or just the variables. MOVE programs, CODE, arrays. MERGE auto-running programs. End-Of- File function.
- OTHER FEATURES, new or improved, are too many to describe: DO - LOOP structure with WHILE, UNTIL and EXIT IF; BREAK, CLEAR, CLOCK, CONTROL CODES, EDIT variables, ELSE, GET, KEYIN (programs can write themselves!) multi-LET, (LIST a "slicer", ON (works with line nos, procs, etc.) ON ERROR, OVER 2, POKE strings, POP, READ LINE, TRACE, USING, DPOKE. Faster GOTOs, GOSUBs and FOR-NEXT loops.
- 28 FUNCTIONS: AND, OR, XOR, DEC, HEX$, BIN$; fast SINE, COSE, RNDM, CHAR$, NUMBER, DPEEK, EOF, FILLED, INARRAY, INSTRING, ITEM LENGTH, MEMORY$, MEM, MOD, SCRN$, SHIFT$, STRING$, TIME$, USING$.
- Spectrum Basic compatible - you can run existing programs. Transferable to Microdrive. Syntax check on entry. Extra error messages. Compatible with most printer interfaces (please specify). Wafadrive version available.
- Comprehensive A5-size manual. More than 80 pages, with many examples.
- To show you the power of Beta Basic's procedures, we include a FREE TURTLE GRAPHICS package!
- Release 1.8 remains available, at a lower price of £8.95 (£9.50 overseas). You can upgrade later to Release 3.0 for £6.95 (£7.50 overseas).
- TRANSFORM your Spectrum with BETA BASIC 3.0 for just £14.95 inclusive! (£15.50 overseas).

(TICK AS APPROPRIATE.) PLEASE SEND ME:
- BETA BASIC 3.0. PAYMENT OF £14.95 (OR £15.50 OVERSEAS) IS ENCLOSED.
- BETA BASIC 3.0 UPGRADE. PAYMENT OF £6.95 (£7.50) IS ENCLOSED.
- BETA BASIC 1.8. PAYMENT OF £8.95 (£9.50) IS ENCLOSED.
- MORE INFORMATION ON _____. I HAVE/DO NOT HAVE RELEASE 1.8 ALREADY.
- A STAMPED ADDRESSED ENVELOPE IS ENCLOSED.

BETA SOFT

92 OXFORD RD.
MOSELEY
BIRMINGHAM
B13 9SQ

Access



When you've cornered the germ bags...

COMET

FIREBIRD

Animator1

TIRED of the way programmers flex their graphics muscles at you from the screen? Want to add life and complexity to those little black blobs you call aliens in your feeble attempts to write arcade games?

Animator1 can enhance your Basic and machine code programs using a screen designer coupled with an advanced sprite animator. All those functions are controlled using the keyboard. Devices such as mice and joysticks are not necessary — according to the publisher. Such devices are a hinderance to artists who cannot get enough detail into their designs when using them.

The whole screen is used for drawing and you can set up several sprite shapes at the same time using a cursor which mimics brush or airbrush and can lay down a variety of hatchings and textures. The cursor can also draw lines and shapes using one of the characters from the user-defined, or normal character, sets or even a smiling face.

There are four graphics creation modes — design, line, circle and print. The design mode alters the texture of the drawing cursor.

Five types of brush are included and they form part of the whole of a character square. You can also use hatch 14 as a brush, and trail a smiling face across the screen.

There are 14 predefined hatches — called textures in other packages of this type — but another 65521 can be user-defined. The character set, user-defined graphics and brushes can also be changed on-screen using a cursor. There is no need to call up each character or brush to make a change. Just move the cursor to the chosen character and start inking or erasing.

The line and circle modes create shapes on the screen whch can be filled with texture or colour. Unlike other packages on the market you do not have to define the origin of a line before you start to play with the other end. **Animator1** allows you to play with both ends of a line and to stretch it in any direction — what versatility!

Circles can be drawn more accurately than with packages such as **Art Studio** and **The Artist**. A cross-hair cursor, which can be made bigger or smaller, is used to depict the origin and diameter of the circle. Pressing the draw key will print a circle touching the four spikes of the cross-hair. That method is easier and more exact than using a pixel-width cursor to select the two circle points.

Print mode is nothing less than stunning. You type in a message which is displayed on the screen. It can then be stretched, compressed and pointed in any direction using the cursor movement keys. The message can even be rotated on its own axis.

Once you have designed your screen you can select parts of it to be sprites. A rectangular window defaulted at the centre of the screen shows the part of the main display in which the draw cursor is located. That frame can be saved as a sprite by specifying the new sprite number.

The use of the whole screen as a sprite sketch pad is useful because you can create a series of figures side by side which show the stages of animation. You can then save each of those as a sprite and animate it.

All you have to do to animate a series of sprites is to specify the range in which they fall —

SOFT 5 WARE

Icon Graphix

IT MAY have icons but this package is not quick on the draw. The speed at which it performs its operations precludes its use by any designer who wants to produce images swiftly and with the minimum of fuss.

My test for icon packages is to see how far I can get into the program without resorting to the manual. I was able to understand most of the icons — except the rubber — but none of them seemed to work.

A quick look at the instructions, which are very brief indeed, did not reveal any wrong doing on my part so I tried again. Eventually I found the need to hold down the fire key or joystick button for three to five seconds.

Control may be slow but Audiogenic brings a whole new meaning to turtle graphics. It is the slowest drawing program I have seen. A utility written in Basic could do better. **Icon Graphix** takes 10 seconds to draw a line across the width of the screen. To fill the screen with a texture — it can't do colours — takes, on average, 35 seconds. What are they using, Basic ROM routines?

If **Icon Graphix** is not so fast it does have a wide range of graphics and text effects. The three drawing implements available are felt tip pen, paint spray and paint brush.

You can select the width of the felt pen using the Shapes icon. Sixteen nib or spray shapes can be selected, ranging from short, straight lines, through blobs to large squares of texture or colour.

The texture of your pen is changed by selecting a new texture from the blocks around the screen. Those include solid black, various hatch patterns, and plain white. You can also design your own textures using the draw option.

Lines, circles and boxes can be drawn in felt pen mode. Those shapes are elastic-banded, so that you can see the shape expand as you manipulate the cursor. To draw a line, you would press the fire key and move the cursor to the position at which you want the line to end. You can twist the line in any direction and when the fire key is released the line is completed.

Drawing predefined lines, circles and boxes is even slower than drawing simple pen trails made up of individual texture dots. The speed difference is very noticeable — we're now down to a snail's pace.

One of the only outstanding — and fast — features of the package is the magnification. It can treble the size of a particular area of your design — where the cursor has been located — and can make detailed design work easier. Unfortunately you cannot select the level of magnification, a feature which would have been useful to professional designers and artists, but in general the magnification is enough for most line drawings, plans and circuit diagrams.

Icon Graphix lacks colour — most of the time. Drawing is done in black and white and colour is added afterwards by selecting the colour menu — which appears at the top of the screen — setting the colour and then moving over your design with the felt pen. That works well enough for simple shapes but you cannot add colour on a pixel scale to complex drawings, or paint the whole screen in one colour with one instruction.

Audiogenic has relied upon the popularity of icons in an attempt to make much more of what is a sub-standard product. The package is too slow, in both control and

SOFT 3 WARE

such as 1 to 5 — and press Enter. An example series of sprites, showing an animated man, is included and illustrates the sophistication of the package over other products.

We're not finished yet, though. **Animator1** can also mirror the screen image, scroll it and expand, contract and rotate it at an instantaneous speed which puts **Art Studio** to shame. You can manipulate the whole screen, part of it, or the attributes, using the window system and the cursor movement keys.

The sprites and screen displays can be stored on tape, disc or microdrive and be run in Basic or machine code programs. Instructions for their use are given in the concise but easy to read booklet.

As a design package **Animator 1** beats **Art Studio** and **The Artist** in all but fancy display packaging and price. It is most certainly the best sprite creator around because it is so easy to use. The package invites use rather than putting up a barrier between it and beginners.

I wish this new company well and hope it finds a retail outlet soon.

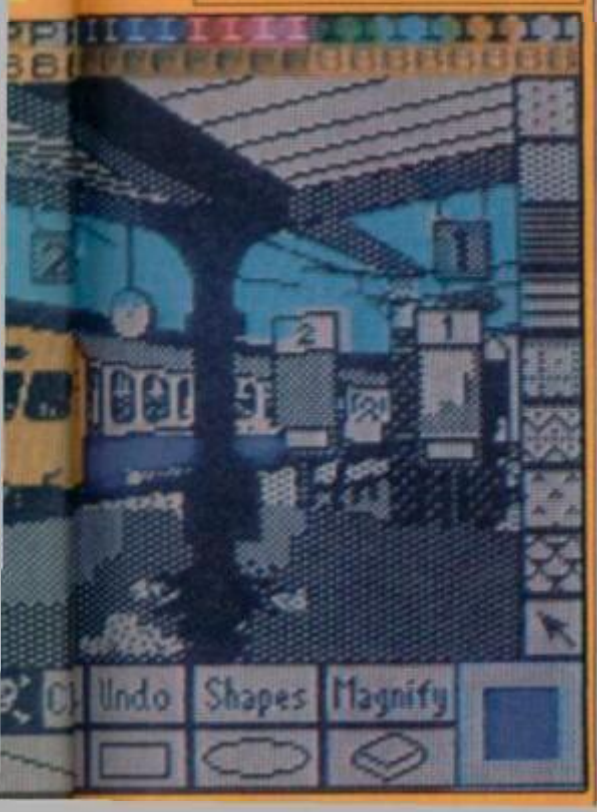
John Gilbert

Publisher Softcat Software, PO Box 79, Macclesfield, Cheshire SK10 3NJ
Price £14.95 **Memory** 48K
★★★★★

operation, and does not have the flexibility which a professional designer would need.

Even if you're not a professional the best design equipment available is **Art Studio**, or **The Artist**, or even **Animator1**. *John Gilbert*

Publisher Audiogenic
Memory 48K **Price** £9.95
Joystick Kempston
★★★



Laser Basic

SOFT 5 WARE

LASER BASIC is all about sprites.

What is a sprite? Well, it's an object which can move across the screen — a monster or a bus or a space invader — independently of other objects or the background. The dream command in Basic would be something like LET SPRITE(1)=LEFT+1 which would move sprite number one a square to the left.

Alas, you can't do that sort of thing on the Spectrum without writing a lot of routines which make the whole operation extremely slow, especially if you've got lots of sprites on the screen at a time. **Laser Basic** is designed to provide a comprehensive set of extra commands which you can use to manipulate sprites.

What you get is a set of programs, incuding a demonstration game of 3D Noughts and Crosses, which, between them, provide the various necessary facilities. **Laser Basic** itself occupies about 8K of memory at the top end of the RAM, but the amount of extra space used to store the sprite data obviously depends on how many sprites you define for use. Two sets of sprites — 109 in all, ranging from small spacecraft to large steam trains — are thoughtfully provided.

There are 138 commands added to Basic, which fall into various categories. The toolkit provides a renumber facility and a monitor command, which runs a program line by line so you can follow it through. A set of graphics variables contains information about the position and nature of different sprites.

A set of commands puts the contents of a graphics variable into an ordinary Basic variable where it can then be changed under normal functions.

Further sets of commands scroll the screen, or attributes, a number of pixels left or right, up or down. You can choose whether to have your sprites wrap around the edges of the screen or simply disappear. Another group of commands is concerned with dropping sprites into the screen or taking data from the screen and turning it into a sprite. A final set gives inverse, mirror and rotate functions on pre-defined sprites and their attributes.

If you are beginning to get confused by all this technical stuff, be warned — **Laser Basic** is immensely powerful but does not welcome the novice. That is not because the program is badly implemented — far from it — but because the very nature of the programming is complicated. If you don't understand how ordinary Basic Spectrum graphics work, you will be completely at sea with **Laser Basic**.

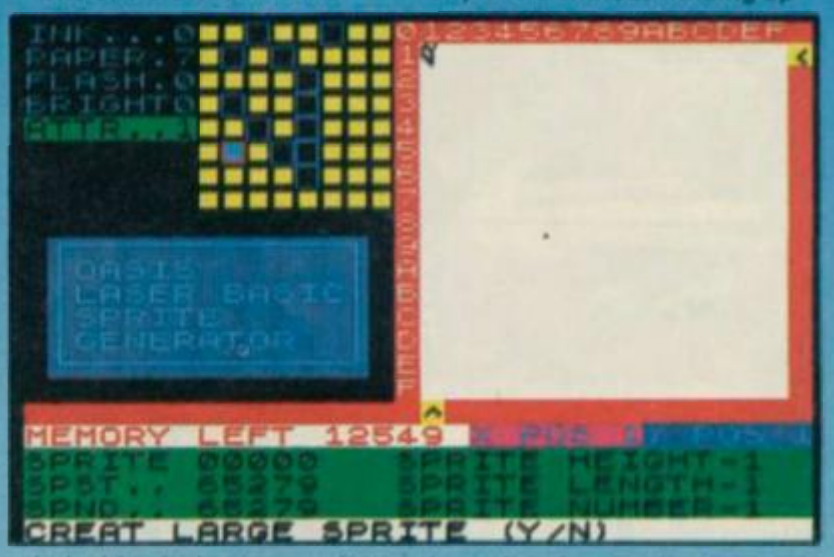
For those who do understand the ins and outs of graphics programming, however, it's an excellent utility. The separate sprite designer program allows you to create all the sprites you need by using methods similar to those of UDG generators — except in this case you are not limited to a single character square but can work on a grid of up to 15x15 squares — larger if you tailor the size to your needs first. The resulting data is then saved as a sprites file to be used with **Laser Basic** itself.

The one drawback to the whole thing is that you can't run your program without **Laser Basic** present in the memory — obviously the Spectrum can't interpret those new commands by itself. Ocean IQ has therefore produced the **Laser Compiler**, which allows you to compile your programs into machine code which will then run on its own. It's simple enough to use, runs very fast, and occupies less memory than the **Laser Basic** program, thus ensuring that anything you write will be short enough to compile.

The booklet suggests that the Compiler can improve ordinary Basic by a speed factor of two, whereas it's much better with **Laser Basic** programs. We found virtually no difference at all on test programs in Basic involving arithmetic, looping, and graphics. Nor was there a marked improvement on the speed of **Laser Basic**, though scrolling functions were definitely smoother.

This is not surprising — the compiler is very small, only makes one pass and clearly does not optimise the code in the way programs like **Blast!** attempt to do. You should not buy the compiler on its own if you expect major savings in the speed of your programs — it's simply not worth it. As a tool for persuading your **Laser Basic** efforts to run on their own, it is essential.

Also essential are microdrives, if you want to get anywhere without winding up knee deep in cassette tape.



While the 75-page manual is daunting, it's full of example programs and routines to illustrate all the commands. The sprite selections provided are well-drawn and cover most of the usual objects and monsters.

The programmers were responsible for **White Lightning**, the classic games writing utility, and have kept up the standard with **Laser Basic**. While it is likely to have a rather limited market, it is certainly a highly satisfactory package for the budding games programmer. *Chris Bourne*

Laser Basic
Publisher Ocean IQ
Price £14.95
Memory 48K
★★★★★

Laser Compiler
Publisher Ocean IQ
Price £9.95
Memory 48K
★★★

Laser Compiler

SOFT 3 WARE

A different menu every month.

The very best restaurant would never dream of running the same menu for more than a month.

After all, variety is the spice of life.

So too with Educational Computing. Each month we reflect the latest developments in the market. Hardware, software and peripherals, the latest books and courses...as every new day changes the face of computers in education. Educational Computing is always one step ahead.

EDUCATIONAL COMPUTING

Yes, I should like to subscribe to Educational Computing for one year at £15.

I enclose a cheque for £ _____

OR please charge my Access/Barclaycard

the sum of _____

Card Name _____

Card Number _____

Expiry Date _____

OR please invoice my school/LEA £ _____

Signed _____

Name _____

Organisation _____

Address _____

_____ Postcode _____

Telephone _____

We are always up-to-date, often provocative and never dull or repetitive.

Send us your completed subscription form today, and we'll ensure that your personal copy of Educational Computing is delivered direct to you in the first week of every month.

Please return the coupon to:

Educational Computing
Subscriptions Dept,
Priory Court,
30–32 Farringdon Lane,
London EC1R 3AU.

New: Prospero's professional language compilers for the Sinclair QL

PRO PASCAL & PRO FORTRAN-77 FOR SINCLAIR QL

£99.95 VAT included

Incredible value! - Endorsed by Sinclair Research

ISO-PASCAL

Pro Pascal is validated to ISO 7185 Class A (no errors) on the Z80 processor under CP/M and the 8088 processor under PC-DOS. This provides a guarantee that the compiler is complete and works perfectly.

NO BUGS YOU DON'T HAVE TO FALL IN ALL THE HOLES

FORTRAN 77

Pro Fortran-77 is a full implementation of ANSI Fortran 77 with no omissions and many useful extensions

USE THE LANGUAGES THE PROFESSIONALS DO: PASCAL AND FORTRAN

Ideal for
- Sinclair software developers
- schools and colleges
- students of computing
- development of personal skills
- solving technical problems
- training institutions

✓ Produces compact efficient code

Lazy I/O
All files closed on exit from procedure

PASCAL ⟷ FORTRAN
INTERLINKABLE OBJECT CODE

16 digit
Single and double precision IEEE format arithmetic gives 7 or 16 digit precision

Compilers include: compiler, linker,run-time libraries, librarian, X-ref program, sample programs, graphics routines, 200 page manual. Supplied on 3 microdrives and ROM cartridge. Runs on 128K QL. Supports disk drives.

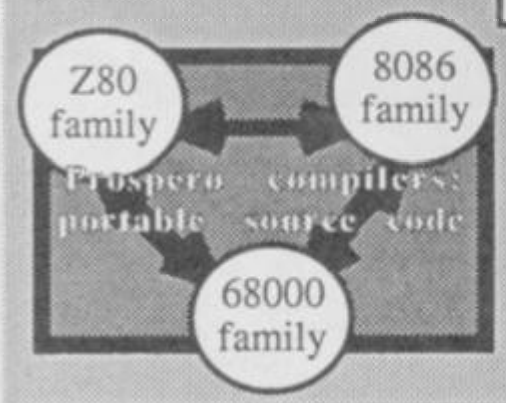
GRAPHICS
Graphics routines included

At Prospero we specialise in writing language compilers. We produce the best possible compilers, conforming to the appropriate standard, and giving programmers a secure base on which to build.

REVIEWS & INFO
Call 01-741 8531 for a free info pack with data sheets and magazine reviews!

"Pro Pascal is not only ISO-validated, it is also a superb-quality and very full software development tool."
Personal Computer World Nov 1985

Also available from Sinclair specialists & distributors



BIG

Compiles big programs
>10000 lines...
>1000 identifiers...
Separate compilation to build libraries and massive program suites

Used at 5000 sites around the world

Prospero Software Ltd
190 Castelnau, London SW13 9DH
England. Telephone 01-741 8531.
Telex 8814396 PROSOF G.

It's easy to order!

Credit card holders phone 01-741 8531
Access, Visa, Diners & Amex taken.

Mail order

Send this coupon with cheque to Prospero Software, 190 Castelnau, London SW13 9DH, England.
Post free in UK - including VAT.
Overseas orders at £86.91 + £3 post and packing.
Allow 28 days for delivery.

Please supply ____ copies Pro Fortran-77 at £99.95
Please supply ____ copies Pro Pascal at £99.95
(Sinclair) I enclose payment for £_____.

Name_____
Address_____
_____
Telephone no_____
In case of query ring 01-741 8531 or telex 8814396

QLINK

Who's supporting the QL today?

John Gilbert has some harsh words for Sinclair's QL backup services

THE LAUNCH of the 128 may have got you jittery about the future of the QL, but Sinclair Research is committed to the 68000 chip and will continue to produce machines which use it.

The QL User Club is still in existence as is the advice hotline for enquiries about the Psion business packages which has been renamed Psion Support. The demarcation lines for help are blurred but it is generally understood that if Sinclair can wriggle out of answering technical queries it will. After all there's always Psion or *Sinclair User*.

Sinclair is responsible for supplying updates of the Psion packages. Psion doesn't have copies so don't write to them. The company does, however, run a telephone hotline for people who have problems using **Quill, Archive, Abacus** and **Easel**. The telephone number is supplied when you join QLUB, applications for which are in the QL package when you buy it.

When you contact Psion with a query, your identity number is processed through the company's VAX — to make sure you are a member. Your query is then fed into the computer which cross references all similar problems which have occurred in the past and prints out the solutions if there are any. If the answer is not known a solution is found by the Psion engineers and the computer database updated.

Answers can also be sought by mail. Just fill in one of the Psion Questionnaire forms and send it off. Those are processed by the computer which prints out several courses of action.

So, what has Sinclair got to equal Psion's valiant effort? A phone call to Sinclair headquarters will prove frustrating in the extreme. More than likely there will be no-one available to give you help, technical or otherwise. One other tip. Don't bother phoning the company's shipping department at Camberley. It's continuously engaged for some reason.

One area of QLUB which Sinclair has managed to get right is QLUB News. It is a slim black and white publication and resembles an advertising sheet giving details of new products. The news section of the magazine, which is supposed to come straight from the heart of Sinclair, is invariably three months behind the times. The editor could certainly tighten his belt.

Of the two main QL Clubs — IQLUG was covered in last month's issue of *Sinclair User* — QLUB is the poor

QL Paint

IF YOU BOUGHT GraphiQL last year, you'll wish now that you had waited for Sinclair's QL Paint — an advanced version of the Talent package.

For those of you who do not own a graphics package, this is the one to buy. It has everything you are possibly going to need.

Control of the drawing devices is through a series of icons and drop down menu options which are selected using the cursor keys. There are eight of those menus which are accessed through the F5 function key.

Holding the space key down while moving via the cursor keys leaves a trail of dots in the selected colour. You can also switch to airbrush and squirt a fine texture of paint onto the screen, drawing in the same way as you would with the pencil.

On the next level of design you can pre-define shapes such as circles, lines and boxes. Those can be filled with colour or texture taken from a library of patterns stored within the program.

Textures are created in a window at the bottom of the screen and can include any

Pro Fortran-77

I OWE my interest in computers to a schoolboy infatuation with the Fortran programming language, and a stack of batch-processed punched cards.

At school in the early seventies Fortran was the main language for computer illiterates who fancied themselves as hackers and, although it was replaced by interactive Basic operating on remote terminals, it still remains popular in colleges and scientific establishments.

Fortran-77, from Prospero, is a complete implementation of the ANSI X3.9 standard. It has a run-time library and standard Sinclair linker which is used to connect separately compiled Fortran routines.

The two-pass compiler converts source into relocatable binary code. Being relocatable, the machine code can be turned into a job and run anywhere on the user RAM map. Unfortunately, a source editor has not been included so you will need to buy one. I would suggest the one from Metacomco, which is a standard ASCII editor, but you would have to buy one of their languages or utilities to obtain it.

Once you have found a way of entering source the rest is plain sailing. The first input the two-pass compiler requires is the name of your source file — it can take only one file at a time.

The compiled source code is assembled on cartridge using MDV2_ and a report goes to the screen console to inform you of any errors and, if there are none, how much code and data has been assembled. That is useful if you want to run tasks concurrently.

Just because you can compile only one program at a time does not mean that the program cannot be made up of code from different files. Several source files can be linked into one program using the INCLUDE directive which is so popular with C compiler manufacturers. When the compiler encounters INCLUDE the code which it points to is loaded as a routine within the main program and compiled.

There are nine compile-time options which you can select. Those include making a list of source file and error messages and dumping it either to the screen console or MDV_ file, checking the range of variables and compacting code if memory is at a premium.

The compiler is easy to operate and can be made even easier by putting it onto disc and using **QL Toolkit**, from Sinclair Research, to put the compiler into Batch Mode. Once you've done that a single command can be used in compilation instead of having to invoke the compiler's two passes manually.

Error messages can occur at any time during compilation and consist of a digit from one to four indicating the level of severity, the source line number at which the error occurred and the code of that error.

The error messages are not in English and you will have to refer to an appendix at the back of the manual to translate them. There are 107 error messages covering compile-time, run-time and IO errors.

The comprehensive manual covers most aspects of Fortran but it is no replacement for a book on the language — which any good Websters outlet will stock. Fortran is not as difficult as Pascal to learn, especially if you have done some Basic programming. It is, after all, a sub-set of Basic with a structure similar to that of Pascal and an extended file-handling capability.

Pro Fortran-77 will appeal to colleges and other educational establishments, and to home users who want a Basic-type language without the restrictions on random access file handling.

It can also be used to construct mathematical models, handle calculus, equations and geometric functions. Those can be supplemented and made more digestible on screen by the sophisticated graphics commands. At the other end of the scale you can, of course, produce your own graphics adventures — which usually require manipulation of locations with graphics — or adventure games which do not need user-defined graphics. At almost £100 you are unlikely to want to just try it out! However, if you've seen what Fortran can do and have long applications programs to write, **Pro Fortran-77** is an excellent alternative to all those Basic and Pascal compilers on the market.

Publisher Prospero Software Ltd, 190 Castelnau, London SW13 9DH.
Price £99.95
★★★★★

relation, although it shouldn't be. QLUB membership is free, whereas membership of IQLUG is by subscription to its magazine *Quanta*. If Sinclair wants to run a Club it should do so properly — I'm sure we'd all pay extra for such a facility — your reactions please.

Software news

Transform has decided to take the QL under its belt with three new programs ranging in price from £20 to £60.

If you run a small business you will have noticed the lack of mailing list facilities on both **Quill** and **Archive. Mailing List** allows you to store and retrieve names and addresses using **Archive.** Data files can be exported to **Quill**.

It is compatible with Transform's **Stock Control** program which costs £14.95. It will keep a record of stock items indexed under retail price, trade price, minimum order level and items on order.

The **Payroll** package — the only one of its kind, I believe — calculates weekly, monthly, and four-weekly payrolls. It handles all tax calculations, coin analysis and payment rounding.

If you are looking for a good text adventure, other than the **Pawn** and can take the shabby purple cassette inlay then **QL Nemesis** will appeal.

It's a space adventure with an original plot — well, for the QL anyway. Taking your twin-engined craft into the depths of space you must capture the most wanted man in the universe — Sir Clive.

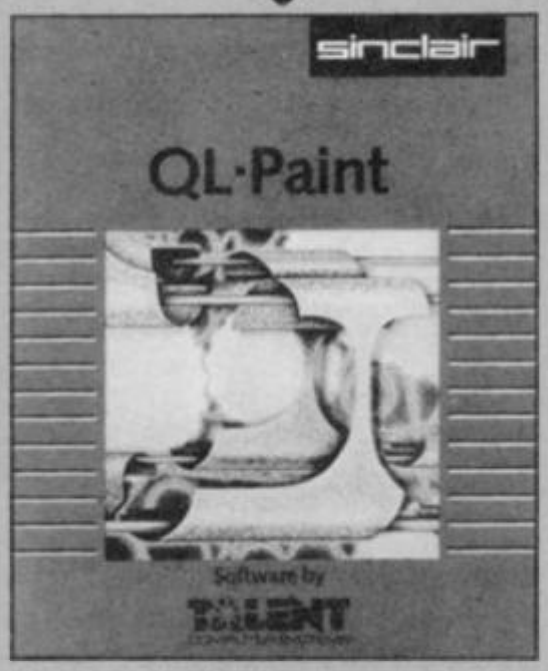
The game can be obtained from TEC Publications for £13.95. A review will appear in QLink, next month.

Mailing List £14.95, **Stock Control** £14.95, **Pay Roll** £63.25. Transform Ltd, 24 West Oak, Beckenham, Kent BR3 2EZ. Tel 01-658 6350.

QL Nemesis £13.95, TEC Publications, 24 Victoria Road, Bromsgrove, Worcestershire B61 0DW. Tel 0527 74567.

SINCLAIR USER CLASSIC

QLINK



shape or colour. For instance, you could design a star pattern, coloured blue on the outside wall and yellow at the centre, and fill any area within your main design with that texture.

The patterns which make up textures can be as complex as you wish. You could, for instance, make up a series of picture elements such as the sun, grass or even a house and call them from the library to create the main picture. It is a powerful part of the package which is not available on most other design programs for the QL.

QL Paint will also copy and mirror parts of your design along one or two axes. That saves a lot of time reproducing shapes on the screen and takes less than a minute to complete.

To copy a design from one area of the screen to another, mark a rectangular window around it and take the cursor to the screen area where you want to reproduce the shape. You can then plant the design onto the screen or Save it to microdrive.

Mirroring a shape in the X or Y axes can be done in a similar manner. Just put a box window around the shape to be mirrored and press the keys corresponding to the vertical or horizontal plant.

The results of your graphic dabblings can be output to a microdrive or printer — it is not possible to use a disc drive. A printer driver written in SuperBasic has been included so you can set up the program for your make of printer. The instructions are simple and concise so, you should have no difficulty in making the most out of this superb package.

The advantages of QL Paint over GraphiQL are physically slight but the savings for you in time and energy are great. You only need to read the instruction book once to use this product and, if you've had experience with other design products, you may not have to refer to it at all.

If you are a beginner you will be surprised at the graphics you can create within a matter of minutes. You don't have to be an artist to achieve good results, as playing around with shapes on the screen often produces a prize winning picture which can be put into your programs.

Publisher Sinclair Research
Price £24.95
★★★★★

The Wanderer

SINCLAIR USER CLASSIC

CULT GAMES are unheard of on the QL, but I've got a feeling that state of affairs is likely to change when The Wanderer hits the screen.

I've seen 3D games before — in which you must wear 3D glasses — but only The Wanderer has worked for me. The initial demo displays with their strange conglomeration of objects floating through space tell of the miracles to come. Bicycles spin past, pentagons twist and turn, and cards float lazily towards infinity.

Press Enter and the space map is displayed. Most of the map squares are blank and represent sectors. The other squares represent worlds on which you can play poker for energy and shield power, and gateways into other galaxies.

The plot revolves around some nasty looking moggies — who are on the warpath, destroying everything they find in their path through space. The 3D perspective makes it difficult to destroy them. If you clip only the side of one of their space crafts you might get hit by floating debris, followed by a venomous attack from their laser guns.

If you were hoping for a version of Elite on the QL, The Wanderer falls far short. Although there are many types of feline battle cruiser, including one which looks like a flexi-lamp complete with domed shade and stand, the planets on the star map do not have their own economies — the idea is not to trade.

You must gamble at the poker tables — like Han Solo in *Star Wars* — and blow everything out of space.

Despite the lack of sophistication in plot, The Wanderer is the only game worthy of the arcade tag on the QL. The 3D graphics are spectacular and at times you will feel as if you are about to fall into the screen.

The transition between star systems initiated from the star map ridicules those industry pundits who say that if you want fast graphics on the QL you are flogging a dead horse. When you enter space warp your craft rushes through space. The stars

swirl in a vortex and you will feel very, very sick.

Pyramide, a French company, has done wonders with its first product for the British market. Its superb packaging and documentation complement a program which shows its author to be very talented. The Wanderer puts many British software products to shame. I can only hope that such excellence will make British software houses get off their backsides and produce something worthwhile.

Publisher Pyramide, Rio Promotions, 28 Waverley Grove, London N3 3PX
Price £19.95
★★★★★

►90

QLINK

John Lambert compares Clive's new printer with the competition and finds it lacking

Sinclair QL printer

AT LAST, I thought, Sinclair has finally got it right. Its new QL printer is a good product at a good price. I decided to compare it with two other new printers in the same price bracket . . .

Sinclair printer

The Sinclair printer — SP1000QL — looks like a professional printer. Black to match the QL, with a built-in tractor feed for continuous paper, and even a cable to plug straight into the QL.

If you prefer using single sheets of paper there is a plastic guide to feed the paper in, and a switch on the side which automatically feeds it through and lines it up.

The SP1000QL is basically a badged Seikosha 1000 with an RS232 port as standard and a new ROM which contains the QL character set.

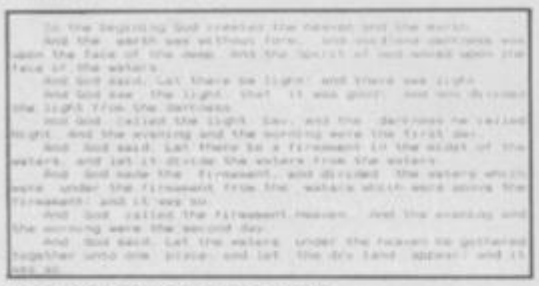
Not having to worry about control codes and DIP switches makes using the printer very simple. There are buttons on the front for On Line, Line Feed and Form Feed and you can use them to set NLQ — Near Letter Quality.

If you want to be adventurous there are a host of control codes to give different character sizes — enlarged, condensed, elite, italics, subscript, superscript and you can even set it to give proportional printing. All these different codes can become a little overpowering so I was pleased to see a new one — ESC ! n — which allows you to set a combination of modes in one instruction. Each mode corresponds to one bit in the n byte.

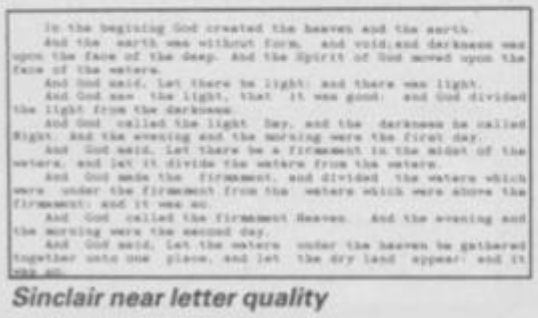
For graphics the printer uses the standard Epson control codes.

Overall a nice, friendly printer. At a shade under £250, compared to an Epson, it is good value. Ideal for people who don't really understand printers.

Sinclair QL Printer

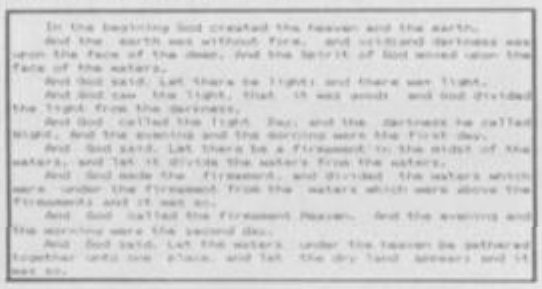


Sinclair ordinary typestyle

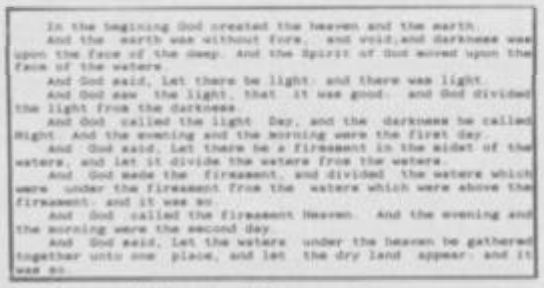


Sinclair near letter quality

Centronics GLP printer



GLP ordinary typestyle



GLP near letter quality

Centronics GLP

The Centronics GLP has been around for a while and has proved popular at the lower end of the market. The reason for this was the price, around £150, because it had both parallel — Centronics, and serial — RS232 ports and because it could do NLQ. The only problem was that it was rather slow.

The old model has now been discontinued and a new one will be released in April at twice the speed and for only £50 more.

The new Centronics GLP has a number of features over the old one. All those found in the Sinclair printer plus a built-in printer buffer, the facility to download characters and 12 different national character sets.

Normally a computer can send characters to a printer faster than the printer can print them. This means that when printing a computer spends a lot of time waiting. A printer buffer is an area of RAM inside the printer which stores the characters to be printed.

Both the Sinclair printer and the GLP took about the same time to print the sample text, but with the GLP the computer was free 45 seconds sooner. If you were printing only a single page the computer would be free almost immediately.

Part of the RAM in the GLP can be used to download characters. You can design your own characters, send them to the printer, and they will be printed instead of the normal character set. One use for this would be to design a character set which matches that of the QL, you would then have your own Sinclair printer.

The GLP — which stands for Great Little Printer, and rightly so — has a lot to recommend it. I find it difficult to reconcile a GLP at £200 plus £15 for a tractor feed, but compared to the Sinclair printer it is very good value.

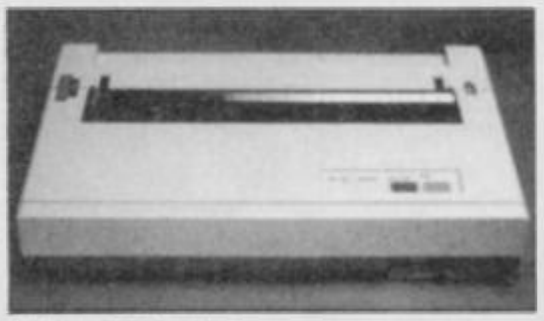
The problem is that it doesn't look like a £200 printer. It will do all that the Sinclair printer will do for less money, but many people tend to buy on looks and the Sinclair badge. If you are looking for a reasonably priced printer with all the facilities then buy a GLP. After all, Centronics invented the standard.

Citizen 120D

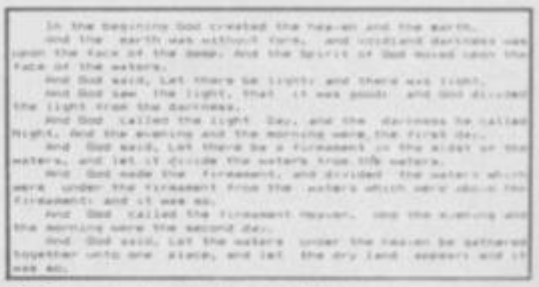
Having been agreeably surprised by the GLP I was not prepared for the new Citizen 120D. Although Citizen has been making printers for a long time, it has always been badged by other companies and so I didn't expect too much.

The printer does not look special — a standard printer shape which stops short at *the back of the tractor feed. The clip-on* tractor is supplied as standard as is a plastic guide for single sheets of paper.

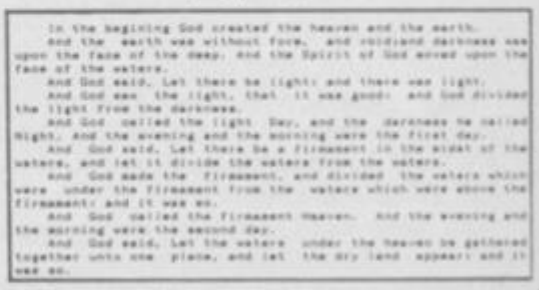
The socket for the lead from the computer is quite novel in that the lead



Citizen 120D printer



Citizen ordinary typestyle



Citizen near letter quality

► 92

GENERAL ENQUIRIES
TELEPHONE
0924-402337

THOUGHTS & CROSSES

37 MARKET STREET, HECKMONDWIKE, WEST YORKS.

Shop Hours 9 am — 5 pm Mon — Sat

CREDIT CARD ORDERS TEL: (0924) 409753

VISA

Title	Company	Price
Barry McGuigan	Activision	7.15
Ghost Busters	Activision	8.10
Mind Shadow	Activision	7.20
Hacker	Activision	7.20
Football Manager	Addictive	6.05
Archon	Anrolasoft	9.90
Realm of Impossibility	Anrolasoft	7.15
Paradrome	Anrolasoft	7.15
Chess II	Artic	5.00
Chess Tutor	Artic	3.50
Eye of Bain	Artic	3.50
Galaxians	Artic	3.00
Invaders	Artic	2.50
On the Oche	Artic	3.00
Snooker	Artic	3.00
World Cup Soccer	Artic	6.25
Graham Gooch	Audiogenic	6.95
Beta Basic 3.0	Betasoft	13.50
Doomdarks Revenge	Beyond	8.95
Lords of Midnight	Beyond	8.95
Psytron	Beyond	7.15
Shadowfire	Beyond	8.95
Spy v s Spy	Beyond	8.95
Starquake	Bubblebus	7.15
Masterfile	Campbell	13.50
Masterfile & MF Print	Campbell	18.00
Arnhem	CCS	6.95
Steve Davis	CDS	7.15
Astronomer	CP Software	6.95
Backgammon	CP Software	5.35
Bridge Player 2	CP Software	6.95
Bridge Tutor Advanced	CP Software	5.35
Bridge Tutor Beginner	CP Software	5.35
Draughts	CP Software	5.35
Pinball Wizard	CP Software	5.35
Superchess 3.5	CP Software	8.95
Superdraughts III	CP Software	11.50
ZX Reverse	CP Software	5.35
Floating Point Forth	CP Software	6.95
Pinball Wizard	CP Software	5.35
Super Chess 3.5	CP Software	6.95
Formula One	CRL	7.15
Juggernaut	CRL	7.15
Dungeon Master	Crystal	3.50
Halls of Things	Crystal	3.50
Mini Office	Database	5.35
Red Arrows	Database	6.05
Fighter Pilot	Digital	7.15
Tomahawk	Digital	6.95
Night Gunner	Digital	7.15
Popeye	DK Tronics	6.25
View to a Kill	Domark	6.90
Friday the 13th	Domark	6.05
Combat Lynx	Durrell	6.05
Critical Mass	Durrell	6.05
Saboteur	Durrell	6.05
Frank Bruno Boxing	Elite	6.25
Commando	Elite	7.15
Grand National	Elite	6.25
Booty	Firebird	2.50
Elite	Firebird	13.50
Gyron	Firebird	6.95
Rasputin	Firebird	7.15
Dun Daragh	Gargoyle	6.95
Marsport	Gargoyle	6.95
Sweevos World	Gargoyle	7.15
Officemaster	Gemini	13.50
The Illustrator	Glisoft	13.50
The Quill	Glisoft	13.50
The Patch	Glisoft	3.35
Monty Mole	Gremlin	5.35
Monty on Run	Gremlin	7.15
Super Sluth	Gremlin	7.15
Rocco	Gremlin	6.25
Wordspell	Griffin	5.00
Dragontorc of Avalon	Hewson	7.15
Heathrow International	Hewson	7.15
Southern Belle	Hewson	7.15
3D Lunar Attack	Hewson	4.00
C Compiler	Hisoft	22.50
Dev Pac 3	Hisoft	12.50
Pascal	Hisoft	22.50
Ultrakit	Hisoft	8.50
Colt	Hisoft	11.65
They Sold a Million	Hitsville	6.95
Alchemist	Imagine	2.75
Hypersports	Imagine	7.15
Mickie	Imagine	7.15
World Series Baseball	Imagine	6.20
Zzoom	Imagine	2.75
World Series B Ball	Imagine	7.15
Ye Ar Kung Fu	Imagine	7.15
Movie	Imagine	7.15
Final Mission	Incentive	3.00
Mountains of Ket	Incentive	3.00
Temple of Vran	Incentive	3.00
Purchase Ledger	Kemp	3.95
Sales Ledger	Kemp	3.95
Valhalla	Legend	6.95
Monopoly	Leisure	6.95
Adventure Quest	Level 9	6.90
Colossal Adventure	Level 9	6.90
Dungeon Adventure	Level 9	6.90
Emerald Isle	Level 9	6.25
Lords of Time	Level 9	6.90
Red Moon	Level 9	6.25
Return to Eden	Level 9	6.90
Snowball	Level 9	6.90
Desert Rats	LLS	6.95
Confrontation	Lothlorien	7.15
Confrontation Scen 1	Lothlorien	5.35
Confrontation Scen 2	Lothlorien	5.35
Panzer Attack	Lothlorien	5.35
The Bulge	Lothlorien	6.99
Dreadnoughts	Lothlorien	5.35
Overlords	Lothlorien	6.25
Time Sanctuary	Lothlorien	7.15
Waterloo	Lothlorien	6.95
Austerlitz	Lothlorien	6.95
Quizdime	Macmillan	5.35
Blockbusters	Macsen	7.15
Spellbound	Mad Games	7.99
Brian Jacks Superstars	Martech	7.15
S.D. Strongman	Martech	7.15
Zords	Martech	7.15
Phoenix	Megadodo	4.95
Hurg	Melbourne	13.50
Way of Exploding Fist	Melbourne	8.95
Fighting Warrior	Melbourne	7.15
Terrormolinos	Melbourne	7.15
Mugsey	Melbourne House	6.25
Sir Lancelot	Melbourne House	5.35
Wham Music Box	Melbourne House	13.95
Code Name Mat II	Micromega	6.25
Back to Skool	Microsphere	6.25
Omnicalc 2	Microsphere	13.50
Skool Daze	Microsphere	5.35
Shadow of Unicorn	Mikro-Gen	14.95
American Football	Mind Games	8.99
Nick Faldo Golf	Mind Games	8.95
First Steps with the Mr Men	Mirrorsoft	8.95
Quick Thinking	Mirrorsoft	3.50
Spitfire 40	Mirrorsoft	8.95
Machine Code Tutor	New Gen	13.50
Lightmagic	New Gen	13.50
Machine Lightning	Oasis	17.95
Daley Thompson's Decathlon	Ocean	6.20
Daley Thompson's Supertest	Ocean	6.25
Frankie Goes to Hollywood	Ocean	8.95
Match Day	Ocean	7.15
Royal Birkdale	Ocean	5.30
Rambo	Ocean	7.15
Roland Rat	Ocean	6.20
Transformers	Ocean	7.15
Lazer Basic	Ocean	13.50
Address Manager Standard	OCP	8.05
Address Manager Plus 80	OCP	17.95
Casino Royal	OCP	5.35
Finance Manager Standard	OCP	8.05
Finance Manager Plus 80	OCP	17.95
Stock Manager Plus 80	OCP	17.95
V.A.T. Manager Standard	OCP	8.05
V.A.T. Manager Plus	OCP	17.95
Machine Code Test	OCP	8.95
Robin of the Wood	Odin	8.95
Nodes of Yesod	Odin	8.95
The Boss	Peaksoft	6.25
Editor & Assembler	Picturesque	7.85
Spectrum Monitor	Picturesque	6.75
Paint Plus	Print 'n' Plotter	8.95
Screen Machine	Print 'n' Plotter	7.40
Sword & Sorcery	PSS	8.95
Mcoder	PSS	11.65
Glass	Q.S.	7.15
The Art Studio	Rainbird	13.50
Trans Express (cass.)	Romantic Robot	8.95
Trans Express (Dis)	Romantic Robot	13.50
Trans Express (M/D)	Romantic Robot	13.50
Castle Spellerous	Sinclair	7.15
Cabell IQ Test	Sinclair	5.00
Chequered Flag	Sinclair	4.00
Chess	Sinclair	4.00
Collectors Pack	Sinclair	3.50
Learn to Read 4	Sinclair	5.00
Learn to Read 5	Sinclair	5.00
Scrabble	Sinclair	8.00
Small Business Accounts	Sinclair	8.50
Vu Calc	Sinclair	4.50
Vu 3D	Sinclair	5.00
ZX Forth	Sinclair	7.50
Biorythms	Sinclair	2.95
Club Record Control	Sinclair	2.95
Rewers	Sinclair	2.95
Tiny Touch & Go	Sinclair	4.50
The Artist	Softek	11.65
Jet Set Willy	Software Projects	5.35
Jet Set Willy II	Software Projects	6.25
Int. Karate	System 3	5.85
Tascopy	Tasman	8.90
Tasmerge	Tasman	9.80
Tasprint	Tasman	8.90
Taswide	Tasman	4.95
Tasword Two	Tasman	12.50
Tasword II	Tasman	14.95
Farlight	The Edge	8.95
Alien 8	Ultimate	8.95
Gun Fight	Ultimate	8.95
Knight Lore	Ultimate	8.95
Nightshade	Ultimate	8.95
Underwurlde	Ultimate	8.95
Trans AM	Ultimate	4.95
Beach Head	US Gold	7.15
Blue Max	US Gold	7.15
Bruce Lee	US Gold	7.15
Raid over Moscow	US Gold	7.15
Spy Hunter	US Gold	7.95
Zaxxon	US Gold	7.15
Impossible Mission	US Gold	7.15
Beach Head II	US Gold	7.15
Dambusters	US Gold	8.95
Pole Position	US Gold	7.15
Winter Games	US Gold	7.15
Highway Encounter	Vortex	7.15
Castle of Dreams	Wigit	7.15
Adventure Playground	Wigit	7.15
Howzat	Wyvern	4.95

QL SOFTWARE

Title	Company	Price
Cash Trader	Accounting	62.95
Meteor Storm	Arraksi	11.95
QL Home Finance	Buzzz	22.50
Steve Davis Snooker	CDS	13.50
Bridge Player	CP Software	
Home Accounts Manager	Dialog	17.95
Transact	Dialog	31.50
Sprite Designer	Digital	17.95
Super Backgamon	Digital	11.95
Astrologer	Digital	22.50
Super Monitor Disc	Digital	17.00
Sprite Generator	Digital	22.50
Super Charge	Digital	54.00
Super Astrologer	Digital	22.50
Monitor/ Dissassembler	Digital	17.95
Archiver	Eidersoft	17.00
Ice	Eidersoft	44.95
Hyper Drive	English	13.50
Assembler	GST	35.95
Touch and Go	Harcourt	17.95
QL Mon	Hisoft	17.95
QL Cavern	JMF	11.95
BCPL	Metacomco	52.95
QLC	Metacomco	89.95
QL Assembler	Metacomco	35.95
Lisp	Metacomco	53.95
Pascal	Metacomco	80.95
Assembler	Metacomco	35.95
Lisp	Metacomco	53.95
Pascal	Metacomco	80.95
Chess	Psion	17.95
Match PT	Psion	13.50
Wanderer	Pyramide	17.95
Toolkit	Qjump	22.50
QL Bounder	Sinclair	6.95
Integrated Account	Stage Soft	79.95
Graphi QL	Talent	31.50
Weir	Talent	17.95
Drill	Talent	17.95
Cosmos	Talent	13.95
Cartridge Doc	Talent	13.50
QL Paint	Talent	22.50
Tascopy	Tasman	11.95
Tasprint	Tasman	17.95
Decision Maker	Tryptych	35.95
Entrepreneur	Tryptych	35.95
Project Planner	Tryptych	35.95
QL Fictionary	Whoopee	11.95

HARDWARE

SPECTRUM 128K	£179
SPECTRUM PLUS (£50 free Software)	£129
SINCLAIR QL	£189
CANON PW1080A PRINTER	£285
CITIZEN 120D/QL	£199
MANNESMAN TALLY MT80 PLUS PRINTER (Centronics)	£195
SHINWA CP480 PRINTER NLQ (Centronics)	£189
MICROVITEC MZ1431 (SPECTRUM) MONITOR	£245
MICROVITEC DQ1451 (QL) MONITOR	£275
PHILIPS GREENSCREEN MONITOR	£82
3 CHANNEL SOUND	£28
CHEETAH SWEET TALKER	£22.50
CHEETAH SPECTRUM	£9.95
CURRAH MICROSPEECH	£26
DK TRONICS DUAL PORT INTERFACE	£12
DATAL ELECTRONICS INTERFACE	£9
PRO 5000 (FORMULA 1 JOYSTICK)	£16
SURE SHOT JOYSTICK	£15
SPECTRUM PVC COVER	£2
SPECTRUM PLUS PVC COVER	£3
SAGA EMPEROR PVC COVER	£4.50
CURRAH MICROSLOT	£7
EXTENSION TO KEYWAY (Ribbon)	£11
MICRODRIVE EXTENSION LEAD	£8
SLOMO (Game speed controller)	£14
ON/OFF SWITCH	£4.50
WAFADRIVE to CENTRONICS PRINTER lead	£18
DISCOVERY 1	£149
ZX EXPANSION SYSTEM (Includes Microdrive/Interface 1/Tasword Two/Masterfile/Ant Attack/Games Designer	£95
ZX INTERFACE 1	£45
ZX MICRODRIVE	£45

PARROT CONTROL DATA

S/S D/D 40T 10 for	£14
D/S D/D 40T 10 for	£18
D/S D/D 10 for	£24

Parrot diskettes include free plastic case.

KEMPSTON INTERFACE-E (Runs for Spectrum-Centronics Printer)	£40
KEMPSTON INTERFACE-S (Cassette Based interface as above)	£30
TASMAN INTERFACE (Cassette Based interface as above)	£25
DK KEYBOARD	£29
SAGA EMPEROR KEYBOARD	£36
DK LIGHT PEN	£18
LIGHT WRITER	£18
MICRODRIVE CARTRIDGE	£1.99
PACK OF 4 CARTRIDGES	£7.50

All prices include postage, packing and VAT. Please order stating, 1) Program Required, 2) Amount Enclosed, 3) Name and Address. 4) Type of computer. Credit card order please state exp. date.

INCREDIBLE!

TRANSFER ANY PROGRAM TO MICRODRIVE CARTRIDGE

The full potential of your microdrive can be realised with the

MIRAGE MICRODRIVER

NOW WITH EVEN MORE EXCITING FEATURES AND STILL ONLY £39.95

Features:

- ★ NEW Even faster loading from cartridge.
- ★ NEW Optional saving of screen display.
- ★ NEW Copy function for screen dumps to ZX printer.
- ★ NEW Dump function for program hacking.
- ★ Consists of hardware only, no additional software required.
- ★ Transfers *any* program to Microdrive in one simple operation.
- ★ Extremely easy to use.
- ★ Freeze *any* game at *any* point, save it, and restore it later.
- ★ Compacts program for efficient use of cartridge.
- ★ Through connector for other peripherals.
- ★ "Poke" facility or infinite lives etc.
- ★ Also saves to cassette.

"If you have a microdrive the Microdriver is the most important piece of hardware you could buy." John Lambert — Sinclair User

"... Using the Mirage is a dream ... this device is a must for the serious microdriver." Crash Magazine — August

"I much preferred the Microdriver for speed and ease of use." Iolo Davidson — Your Spectrum

UPGRADE SERVICE: We will upgrade your existing Microdriver. Simply return the unit to us with a cheque for £5.95 and we will fit the latest version ROM.

Note: This unit is intended for software owners to transfer programs onto microdrive cartridges for speed and ease of access. Programs saved using the Mirage Microdriver are *unreadable* unless the Microdriver is present.

NOW AVAILABLE FROM YOUR LOCAL COMPUTER STORE

MIRAGE Microcomputers Limited

Trade and overseas enquiries welcome.

Or in case of difficulty order directly from us

24 Bank Street
Braintree
Essex CM7 7UL
Tel: (0376) 48321

VISA AMERICAN EXPRESS

COMET

FIREBIRD

plugs into a cartridge which then plugs into the printer. It is supplied with a Centronics cartridge as standard, with an RS232 cartridge available as an optional extra.

Having plugged everything together, I started the computer printing, stop-watch in hand. I turned round to look at the printer, turned back to the computer and found that it was already free. I had to print the sample again to get the timing. It's fast.

A quick flick through the manual revealed that the 120D has a 4K buffer, twice the size of the GLP. Even so, the overall time spent printing, for instance, when the buffer has emptied was three-quarters of that of the GLP. Only in NLQ did it slow down.

A further look through the manual revealed an amazing array of features.

Although I had fed in the paper at the back of the printer in the normal way you can also feed it up through the middle of the printer from underneath. This makes arranging the printer on the desk much easier. The buttons on front, nominally titled as those on the Sinclair printer, can be used to select one of eight print styles without having to worry about control codes.

If you want to twiddle with DIP switches, the ones on the cartridge allow you to set up the optional sheet feeder, select one of three Epson configurations or IBM, start up in NLQ mode and set the character style. Depending on which Epson mode you select you can also select one of eight national character sets.

The 120D can do everything the Sinclair printer and the GLP can do and more. Proportional printing, proportional spacing, and automatic justification to centre, left, right or both; underline and over score, perhaps a line over the top of words; different styles — any style can be printed in reverse, white on black and/or double height.

The list goes on. Graphics, tab channels, you can even take the printer off line with control codes. One very useful feature — for code freaks — is that the printer can do a hex dump. Not just the normal page after page of figures, but 32 bytes at a time with the corresponding ASCII characters being printed separately on the right, in a similar manner to the screen display of **Cartridge Doctor** and **QDoctor**.

The 120D is an excellent printer. The only other surprising thing about it is the price £235. If you wanted to run it from the QL you would have to spend another £30 on the RS232 cartridge plus a tenner for a cable, or use one of the many RS232 to Centronics converters.

Summing up

So much for the Sinclair printer. It is a good printer in many respects and deserves better — if it gets discounted then it's a reasonable buy. The GLP is good, and cheap, and if you don't go for looks and don't want the tractor feed it is also a good buy. For the money, slightly higher in total than the other two, the 120D is the best buy. I can't think of anything I would want to do with a printer that it can't do already, and it can do things I'd never dreamed were possible at the price. Anybody want to buy a second-hand Epson?

The sample text used for the timings was the first chapter of Genesis typed in using the power-up default settings. The QL was fitted with a 512K memory board from Sandy and a CST disc interface running a 5¼in Viglen drive. Timings were taken from pressing Enter in response to the printer's prompt until the prompt line was removed.

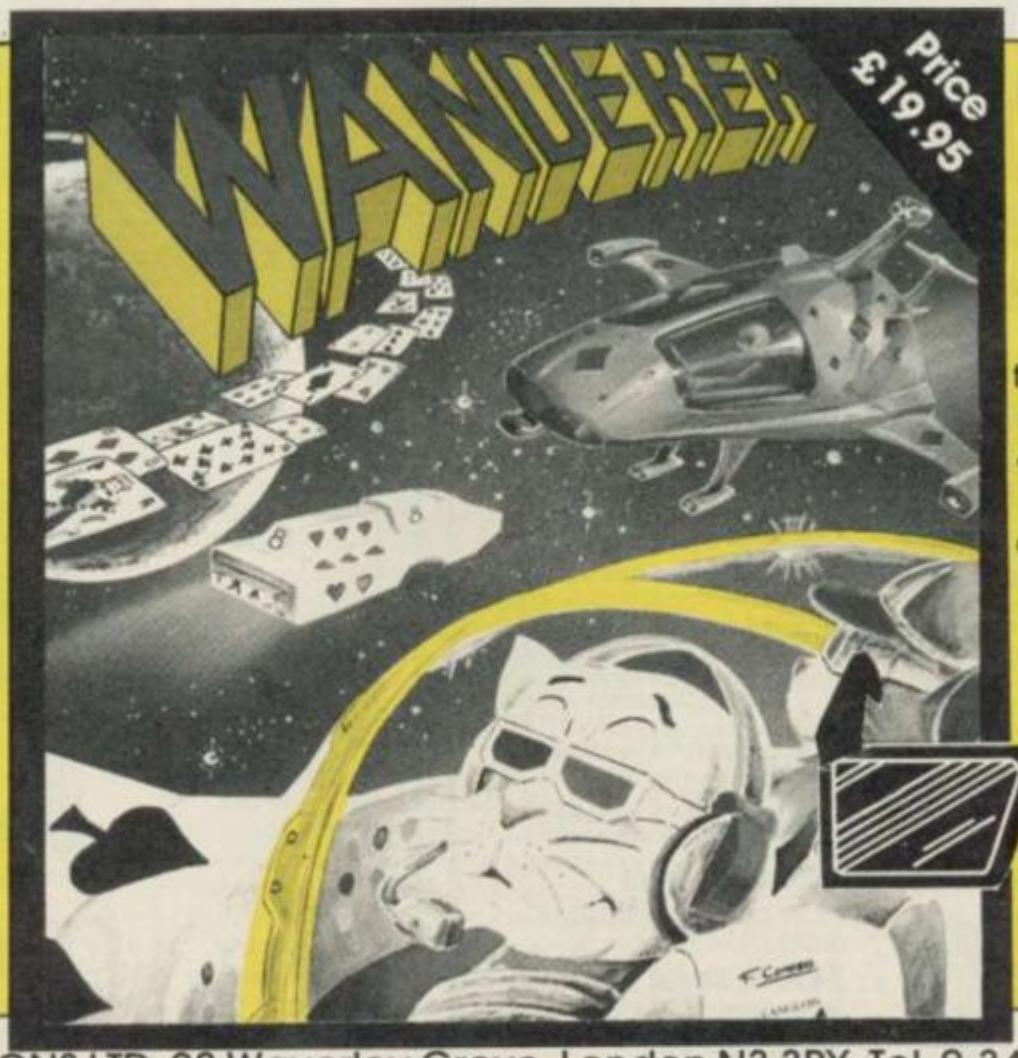
PRINTER

	Sinclair	GLP	Citizen
Time for test			
Computer Free	1.38	0.47	0.20
In NLQ	5.52	2.41	0.25
Printer Free	1.38	1.33	1.00
In NLQ	5.52	4.24	3.55
Features			
Centronics	N	Y	Y
RS232	Y	Y	Option
Tractor	Y	Option	Y
Nominal Speed	100	100	120
In NLQ	20	25	24

"The best up and coming game for the QL: Sinclair User March 1986

PYRAMIDE

ONLY AVAILABLE BY MAIL ORDER. ENCLOSE CHEQUE MADE PAYABLE TO:



SOFT FOR THE QL ONLY

For the first time, a game which uses the full power of the QL spatical effects, combined with fast animation. The object will leap out of the screen thanks to the

supplied with the game

RIO PROMOTIONS LTD. 28 Waverley Grove, London N3 3PX. Tel: 0-349 2764
TRADE ENQUIRIES WELCOME

SINCLAIR USER CLASSIC

We thought it was about time we put you in the picture.

When we introduced our AMX Mouse to micro-users, the response was phenomenal.

And no wonder!

Hailed by the press as 'probably the best input device that has arrived recently', the AMX Mouse brings to Spectrum 48K users, the same sophisticated, positive control that has, until now, been the province of more expensive computers – like the Macintosh.

The fantastic AMX Mouse Package opens up an entirely new and exciting world to Spectrum users and comes complete with Mouse, interface, which also includes a Centronics printer interface, and all these fabulous programs.

AMX ART

This computer aided, drawing program has to be seen to be believed. Making full use of on-screen windows, icons, pull-down menus and pointers, you'll be astonished at the quality of the work you can produce, save and print using either ZX or Epson compatible printers. It's a program ideal for both hours of family fun or for serious professional applications.

AMX COLOUR PALETTE

The wonderful pictures you create with AMX ART can be brought vividly to life with rich vibrant colours – using AMX COLOUR PALETTE. And with 8 Foreground and 8 Background colours you won't be short of inspiration.

AMX CONTROL

Now you can create a 'Mouse environment' in your own programs, AMX Control adds 28 commands to normal Sinclair Basic and contains three programs.

1. The machine code program to extend the Basic interpreter, which gives you full use of windows, icons, pull down menus, pointers and also supports AMX printer interface.
2. An Icon designer, an individual program for creating and storing icons for use in your own programs. The number and variety of icons you can create is limited only by your needs and imagination.
3. A demonstration program containing on screen calculator and puzzle.

This fabulous AMX Mouse Package costs only £69.95, a price as remarkable as the package itself and it includes a fully illustrated operating manual.

The software is supplied on cassette and a tape-to-microdrive transfer facility is included. The AMX Mouse package is compatible with the Spectrum 48K and Spectrum +.

Ordering couldn't be easier.

This superb package is available from all good computer dealers or direct using the freepost order form below.

So what are you waiting for?

Get into the picture now!

☎ FOR INSTANT ACCESS OR VISA ORDERS RING (0925) 4130501/2/3

PLEASE RUSH ME POST FREE _____ (Quantity) AMX MOUSE SPECTRUM 48K PACKAGE/S AT £69.95 EACH INCL. VAT AND P & P.

I ENCLOSE CHEQUE/POSTAL ORDER FOR £_____

OR DEBIT MY ☐ ACCESS

(TICK AS APPROPRIATE) ☐ VISA

CARD NO. ☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐

EXPIRY DATE _____

SIGNATURE _____

NAME _____
(BLOCK CAPITALS PLEASE)

ADDRESS _____

_____

_____ POSTCODE _____

AMX MOUSE

IMAGINATION AT YOUR FINGERTIPS

SEND TO: ADVANCED MEMORY SYSTEMS LIMITED, FREEPOST, WARRINGTON WA4 1BR.

SU

OUT OF THIS WORLD!

SAGA SYSTEMS' HARDWARE

If you want the best for your Spectrum, ensuring it advances with technology, the Saga Systems' collection of keyboards and peripherals is essential. And they are all compatible with the 48K, + and 128K Spectrum.

SAGA 1 EMPEROR

". . . Good looks . . . works remarkably well . . ." – Sinclair User.
". . . remarkable . . . value for money . . ." – Sinclair User Annual 1985.
". . . particularly like the extra caps and symbol shift keys . . . brought the computer to life in quite an unexpected way . . ." – Primary Teaching and Micros.

PRICE £39.95 *(Inc. VAT).*

THE NEW SAGA 2 +

"If I had not already seen the Saga 3 Elite I would have awarded the 2 + a Sinclair User Classic. As it is I'll simply say "Well done, Saga"". – Sinclair User.

And the price is only **£54.95** *(Inc. VAT).*

THE SAGE 3 ELITE

"Devastatingly smart . . . the opposition look like toys . . . the best." – Popular Computing Weekly.
"It transforms the humble Spectrum" – Sinclair User.
". . . will release the full potential of your Speccy . . . superdooper . . . " – Your Sinclair.

At its new low price of **£69.95** *(Inc. VAT) the Saga 3, with its own number pad, is also ideal for the 128K Spectrum.*

NEW 2001

THE NEW SAGA 2001

With its infra-red remote transmission, the Saga 2001 can be used while you walk around the room. No wires link it to the Spectrum. It has 101 keys. The Last Word software is available with it free, and it is simply out of this world.

PRICE £119.95 *(Inc. VAT).*

THE SAGA LO PROFILE

With large enter key, full sized spacebar and printed keys, it has go to be good at **£39.95** *(Inc. VAT).*

SINCLAIR USER CLASSIC AWARD

SAGA SYSTEMS' PERIPHERALS

Microdrive extension cable. For use with your Saga 3. **£9.95** *(Inc. VAT).*

Sound Boost. To put music in your ears (and television). **£9.95** *(Inc. VAT).*

Dust cover. To keep your computer and Saga keyboard clean. **£4.95** *(Inc. VAT).*

Centronics Interface. To drive your printer. **£34.95** *(Inc. VAT).*

SAGA SYSTEMS' SOFTWARE

If you want to do more than just play games and require serious software with practical applications, then we have "The Last Word"

THE LAST WORD

We believe The Last Word is the most advanced word processing package for the Spectrum. Just look at these outstanding facilities:- Standard commercial 80 characters on screen, over 60 commands, massive range of printer options, full on-screen help facility, full feature expression evaluator/calculator, over 24K text space in memory, compatible with tape and microdrive, wafer and: KDOS, BETA, Gordon and Opus disc systems.

PRICE: £13.95 *inclusive of VAT Send off now for full catalogue.*

FREE WITH THE SAGA 2001

SAGA SYSTEMS' PRINTERS

THE NEW SAGA GLP (Great Little Printer)

Only **£199.95,** *the Saga GLP is a dot matrix printer with a near letter quality mode, a complete Epson character set, tractor and friction feed, and a centronics and RS232 interface. It is very compact and can print up to 100 c.p.s. Only* **£199.95** *plus VAT.*

THE CITIZEN 120D

A precision dot matrix printer with a 2 year warranty, the Citizen 120D operates at 120 c.p.s. in fast draft, or 25 c.p.s. in N.L.Q. It has Epson compatible graphics, tractor and friction feed as standard, an optional cut sheet feeder and is very compact. Further features include proportional spacing with many type styles and an exceptional 4K printer buffer. Only **£235** *plus VAT.*

THE NEW SAGA DX85

Big and robust the DX85 is a heavy duty dot matrix printer which is made in the U.K. It prints at 120 c.p.s. It has a bi-directional logic seeking print head and centronics interface (RS 232 available). It has a draft quality mode and costs only **£199.95** *plus VAT.*

THE LTR1 PRINTER

The LTR1 is a letter quality printer, 12 c.p.s. with centronics and RS232 interface and costs only **£121.70** *plus VAT.*

	Quantity	Price	P&P
SAGA 1 EMPEROR	*	£39.95	£1.50
SAGA 2+	*	£54.95	£1.50
SAGA 3 Elite	*	£69.95	£1.85
SAGA 2001	*	£119.95	Free
SAGA LO PROFILE	*	£39.95	£1.50
128K Keyboard up-grade kit		£4.99	Free
LTR1 PRINTER		£139.95	Free
CITIZEN 120D		£270.25	Free
THE SAGA DX85		£229.95	Free
SAGA GLP		£229.95	Free
MICRODRIVE EXT. CABLE		£9.95	Free
SOUND BOOST		£9.95	Free
DUST COVER (Please specify which keyboard)		£4.95	Free
CENTRONICS INTERFACE		£34.95	Free
THE LAST WORD		£13.95	Free
VAT is included		TOTAL	

Please state Spectrum model: 48K, +, 128K (please circle) *

All these products are described in more detail in our Free Catalogue.

SEND YOUR ORDER TO: Dept. SU1 Order Desk Saga Systems Ltd., 2 Eve Road, Woking, Surrey GU21 4JT. Telephone: 04862-22977

Mr/Mrs/Miss _____

Address _____

_____

_____

_____

_____ Amount enclosed £_____

My Access Card No. is

ACCESS ONLY ACCEPTED

Please tick method of payment: PO☐ Cheque☐ Draft☐ Access☐
If this is confirmation of telephone order, please tick box ☐

Signature_____ Date_____

Overseas orders, please deduct 15% VAT add £4 for postage excess. Please allow 28 days for delivery.

ADVANCE WITH

Saga Systems Limited

TEL: 04862-2297

SURGERY

Sinclair Surgery

Spectrum on the blink? John Lambert has a cure

Robot finds right port

I HAVE A 48K Spectrum and have bought a book telling me how to make a robot. It says you need to buy a user port if you do not have one. Where can I obtain one?
Stephen Bolton,
Lichfield, Staffordshire

●*Contact Cambridge MicroElectronics — 0223-314814 — who can supply one.*

VTX on call for Italy

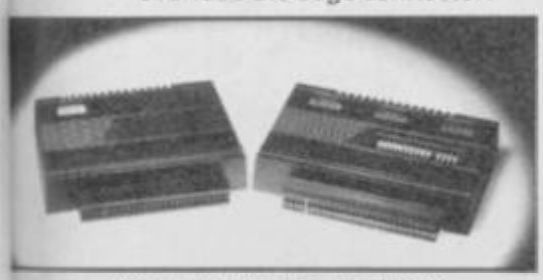
I READ with interest your article on Micronet 800 — *Sinclair User*, January. Is it possible to use a VTX5000 modem in Italy without spending much money on telephoning, and can I connect the VTX5000 to other modems?
Lorenz Petersen,
Rome, Italy

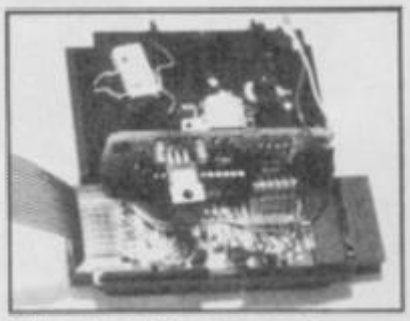
●*The VTX5000 contains its own modem. All you have to do is plug in a phone. I do not know if it will work with Italian phones although it does with many European ones. Can any readers help?*

Double up on joystick power

IS IT POSSIBLE to use a ComCon interface and Kempston interface at the same time? Would it damage my Spectrum to connect the two joystick interfaces, a Currah MicroSpeech and ZX printer at the same time?
P Smout,
Dudley, West Midlands

●*You can connect Kempston and ComCon joystick interfaces at the same time, but be careful about adding too many other peripherals as it is possible to overload the edge connector.*





The microdrive exposed

Microdrives on the 128

I HAVE HEARD a lot about the new Spectrum 128 and would like to know if you can add microdrives without Interface 1. What other add-ons can be attached directly?
Michael Cooney,
Roscommon, Eire

●*As you will see from this issue, the Spectrum 128 has been launched. If you want to add microdrives you will still need an Interface 1.*

There will be a number of Spectrum add-ons which will not work with the new 128 — the VTX5000 and Sinclair printer to name just two.

Lambert goes for brick chic

I HAVE BUILT UP a large collection of hardware, including an Alphacom printer, speech synthesiser and several joystick interfaces. I am now looking for a computer table but all the models I have seen are made for monitors. I have a Sony Trinitron which has a very large back.

Is there a table which is not too large and can go against the wall?
Christopher Martin,
Kenley, Surrey

●*If you really want a computer desk the only answer is to shop around until you find one you like, but they all seem very expensive — £50 to £100. I also use a Sony Trinitron. My set-up consists of a cheap second-hand desk from a junk shop — £5 — with the TV sitting on an off-cut of chip board — 50p — supported by half a dozen bricks — 15p each. It might not look so elegant but it sure is cheap.*

Code cracked for Tasword

RECENTLY I BOUGHT the Tasman parallel printer interface. To my horror I discovered that it doesn't work with **Tasword II**. I need to define the interface codes in **Tasword II**, but I have lost the manual with the codes for different interfaces.

Please could you tell me the codes for the Tasman interface?
Christer Andersen,
Herlev, Denmark

●***Tasword II** is supplied with the codes set for the Tasman interface. Simply load your original tape and it will work correctly. If you cannot find the original, the codes are:*
code 1: 0
code 2: 0
code 3: 0
code 4: 64836

Playing the tape by ear

RECENTLY the Symbol Shift key on my two-year-old Spectrum stopped working and has now been joined by a number of other keys. Is it necessary to send it to a repairer or can I replace the touch sensitive pad underneath the keyboard?

When I was swapping around the leads while loading a game, I put the lead going from the EAR socket to the tape recorder in the microphone socket on the Spectrum. To my amazement the Spectrum did not send the loading signal though the game still loaded. In fact, I find that programs which won't usually load, load first time with this system. Is it doing any damage to my Spectrum?
Roger Adlard,
Hoddesdon, Hertfordshire

●*It sounds as if the keyboard membrane has broken. It is possible to replace this yourself but the membranes are difficult to get hold of cheaply, so try to find a repairer who just charges for the parts used.*

Putting the lead from the cassette player in the MIC socket rather than EAR will not harm the Spectrum. It works because both sockets are connected inside the Spectrum.

Elderly RAMs hard to find

COULD YOU please tell me where I can buy a 16K RAM pack for the Sinclair ZX81?
John Williams,
Blackwood, Gwent

●*Sinclair has a few ZX81s in stock and they should have some RAM packs left. It may be cheaper to buy an old ZX81 with RAM pack second-hand and use the computer as a spare.*

Kempston E is upgraded

I HAVE a Spectrum Plus with Interface 1, Kempston E interface with an Epson RX80 and Taxan green screen monitor.

While I can load **Masterfile** itself I cannot load 'example' or any other file unless I disconnect the Kempston E interface. How can I remedy this problem?
Gerald Colton,
London NW6

●***Masterfile** will not function correctly when run from microdrive with an early Kempston E attached. Contact Kempston and they will replace it free of charge.*

Saga of the scrolling bugs

Mystery of Emperor's scroll

I HAVE a Saga Emperor keyboard which I use with Interface 1. I have discovered that if you try to change modes when you get a "scroll?" prompt then the last command entered returns to the input area and other strange things occur.

There are similar weird results if you press Caps Shift and certain keys. Is this the same with all keyboards and why does it happen?
Paul Sharpe,
Shrewsbury, Shropshire

●*This happens on all Spectrums and is just one of the many design features — bugs — in the Spectrum.*

► 96

SURGERY

Elusive MIDI interfaces

I CANNOT FIND a supplier of a MIDI interface for my Spectrum. When I made the purchase the salesman assured me such a device was available but I begin to wonder if this was just a sales pitch. I want to use my Spectrum with a MIDI compatible printer and understand that MIDI is rapidly becoming the standard for computer control — but I cannot find any information about suitable software.

Steve Messenger,
Farnborough, Hampshire

● *There are in fact three or four different MIDI interfaces for the Spectrum. Contact Transform — 01-658 6350 — for details.*

Keyboard in crash horror

I HAVE PURCHASED a DK 'Tronics keyboard as my original keyboard refused to respond to the B, N, M, and Symbol Shift keys.

I naturally thought all my problems were over, but after pressing the B key, the game I was playing crashed. I then loaded another program and found that the keys crashed any of my 48K programs.

Being an avid adventurer I use those keys a lot and would be very grateful if you could help me.

J S Lauder,
Crook,
County Durham

● *One of the keyboard address lines is at fault. If you cannot see a break in the track around the end of the eight-way keyboard connector — which you can fix yourself — you will have to get it repaired professionally.*

Parlez-vous le Tasword?

I HAVE the French version of **Tasword II** which is fabulous. My problem is the Spectrum keyboard and I am interested in buying the new Saga keyboard.

I should like to know if the keyboard is fully compatible with Interface 1. I am also thinking of buying a disc drive, the Opus Discovery 1.

Is it possible to connect the keyboard with the drive and Brother M-1009 printer? Will **Tasword II** run with either keyboard and drive or keyboard and Interface 1?

Pascal Bosset,
Geneva,
Switzerland

● *The Saga 3 is compatible with both Interface 1 and Discovery 1. In turn, both are compatible with* ***Tasword II****.*

Understanding IBM language

I RECENTLY bought a GLP Centronics printer and interface for use with my Spectrum Plus. I am pleased with it but a problem has arisen which I cannot solve.

The instruction manual is in IBM PC language. Most of this is similar to Spectrum Basic except for ESC $. I cannot find a similar escape key.

J Botwood,
Wednesbury, West Midlands

● *So that a printer can change modes — for example from normal text to enlarged — you have to send a sequence of control codes. Those are usually the ESC character followed by one or two numbers. ESC has a value of 27 so, depending on the printer, the sequence to turn enlarged printing on would be:*

```
LPRINT CHR$(27); CHR$(87);
CHR$(1)
or
LPRINT CHR$(27); "W";
CHR$(1)
```

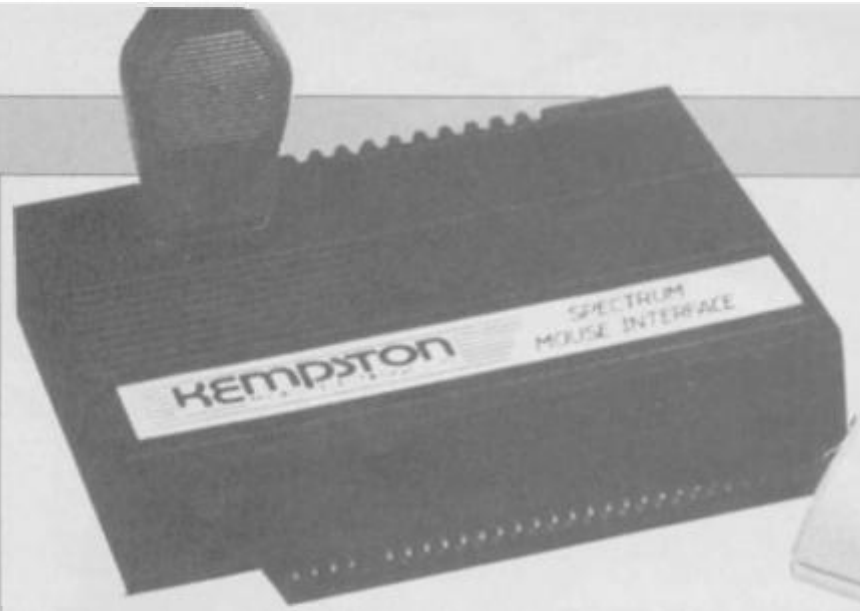
Provided the value of the control code is between 32 and 127 — the 87 in this example — it can be interchanged with the equivalent character.

Catching the post on a QL

I AM LOOKING for a mail-merge facility to use with **Quill 2.0** and wonder if you could make a recommendation. I have not been aware that any such program has been reviewed.

Irene Harvey,
High Wycombe,
Buckinghamshire

● *The only program I know of which gives a mail-merge for the QL is* ***Mailing List*** *by Transform. Contact them on 01-658 6350.*



The artist's mice

KEMPSTON has finally released its mouse for the Spectrum — and it was well worth waiting for. As a bonus it runs on the new Spectrum 128, so it looks as though it will be around for quite a while yet.

The most obvious attraction is that it is bundled with the excellent **Art Studio** — a *Sinclair User* Classic — and it makes the program even better than it was before. With the standard **Art Studio** you have to patch the program to use the mouse, while the extended version is supplied ready patched.

Mice are great for moving a pointer round the screen or selecting items from a menu, hence the current expression WIMPS — Windows, Icons, Mice, Pointers. As **Art Studio** utilises all those functions it is much easier to use.

The Kempston mouse has two buttons, which although normally independent, appear to have the same function within the program. It has a soft rubber ball, which is less likely to slip, and optical decoders.

You cannot avoid comparisons with the AMX mouse. While the Kempston mouse is physically superior and the interface simple and straightforward to use, the main problem is software. Kempston has always been very good at hardware, but not so good at software.

The AMX interface has both a mouse port and a printer port, while the Kempston runs only the mouse. For software writers

Shedding light

SPECTRUM LIGHT PENS have never really caught on. Until now most of the offerings have been wildly inaccurate or have flickered badly in use. The new Cadmaster from Trojan goes a long way toward resolving these problems.

The main thing is that it works well. The drawing program, which is supplied with it, doesn't feature the whizz-bang, pull-down menus of the new Art Studio **type of program, but it is more than good enough to produce some very acceptable results.**

The other advantage over Art Studio **and a mouse is the price — £19.95. At less than a third of the price of the** Art Studio **package more people will be able to afford it.**

Using the pen is very simple, just point and shoot. On loading a menu screen is displayed, from this you can select with the pen the type of line you want to draw — thin, medium, thick, dotted, spray can or two types of quill. Various options are then available to draw freehand, lines, boxes, circles etc with the added advantage that the position can be fine-tuned using the cursor keys.

Areas can be filled, albeit painfully slowly, in one of eight patterns, and there is a useful copy facility which allows you

the Kempston interface is potentially easier to use, but that should make no difference to competent writers.

The software supplied with the AMX mouse consists of a drawing program — not up to the standard of **Art Studio** — plus an extended Basic so that you can use the mouse, pull down menus etc, in your own programs. Kempston gives you **Art Studio** only, plus instructions on how to read the mouse port.

On balance I prefer the Kempston mouse, if only because it is better made. It will be up to the commercial software writers to make their choice.

If you write your own Basic programs go for the AMX, if you write in Z80 stick with Kempston. After all, the Kempston joystick interface has become a standard.

Both mouse packages cost £69.95.

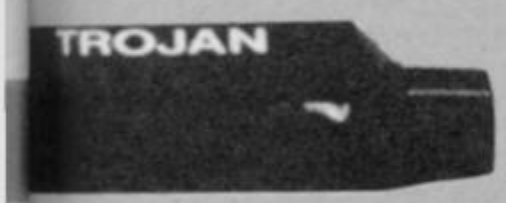
Kempston MicroElectronics Ltd, 1-3 Singer Way, Kempston, Bedford. Tel: 0234-856633.

to select part of the screen and to redraw it in one of four sizes. The finished masterpiece can be saved to tape or microdrive.

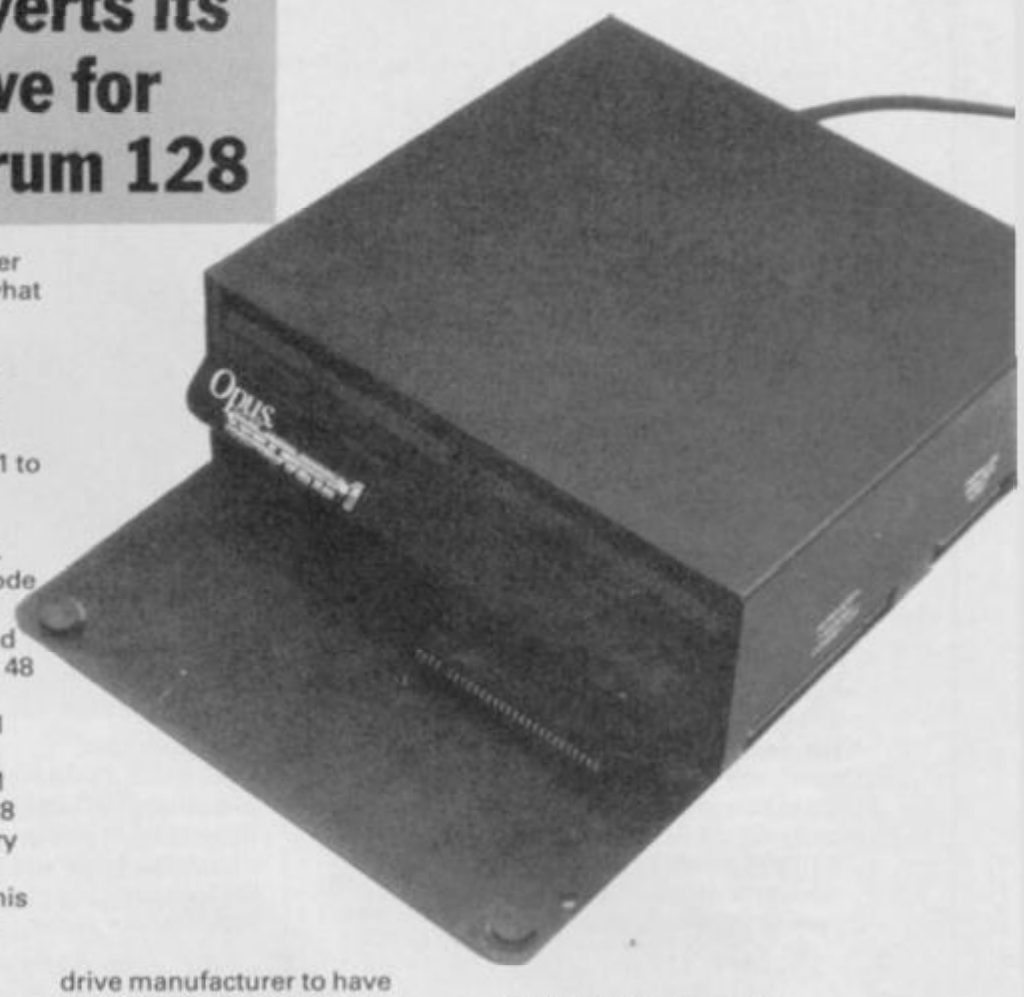
The Cadmaster has a few disadvantages. Most operations require you to point the pen at the screen and then press a key, which may be an awkward manoeuvre for some people. The pen also needs a PP3 battery to power it and though it will last over a year it is one more thing to remember.

Overall, a commendable effort and one which should make Cadmaster the top Spectrum light pen.

Trojan Products, 166 Derlwyn, Dunvant, Swansea SA2 7PF. Tel: 0792-205491.



Opus converts its disc drive for the Spectrum 128



WITH ALL the excitement over the 128 and what it can do, what it can't do tends to be overlooked. One of the drawbacks is that it can't run many of the better hardware add-ons.

While adapting Discovery 1 to run on the 128, Opus has managed to enhance the performance of the machine. You can now go from 128 mode to 48 mode and back again, open files to the RAM disc and access the same RAM disc in 48 mode.

In the standard Discovery 1 you can use the top 32K of a standard Spectrum as a RAM disc — drive five. With the 128 you can use the extra memory as a Discovery RAM disc — drive six. The advantage of this over the Sinclair RAM disc is that you can now use all the microdrive type commands with it, plus the added Discovery features.

When using the Sinclair RAM disc you can only Load and Save, with Discovery attached you can do that and set up a proper filing system with random access files. It should also be faster than the Sinclair version.

In the 48 mode the Sinclair RAM disc is inaccessible; with Discovery that memory can be accessed so you can save a program, go to 48 mode, and then load it back. More importantly you can do the same from 48 mode to 128 mode.

Unlike the Spanish 128, the program in memory in the English version is retained when going from 128 to 48. Unfortunately, if you want to use the Discovery facility of returning to 128 mode the program in memory gets deleted in the process. Hence the need to be able to access the RAM disc in both modes.

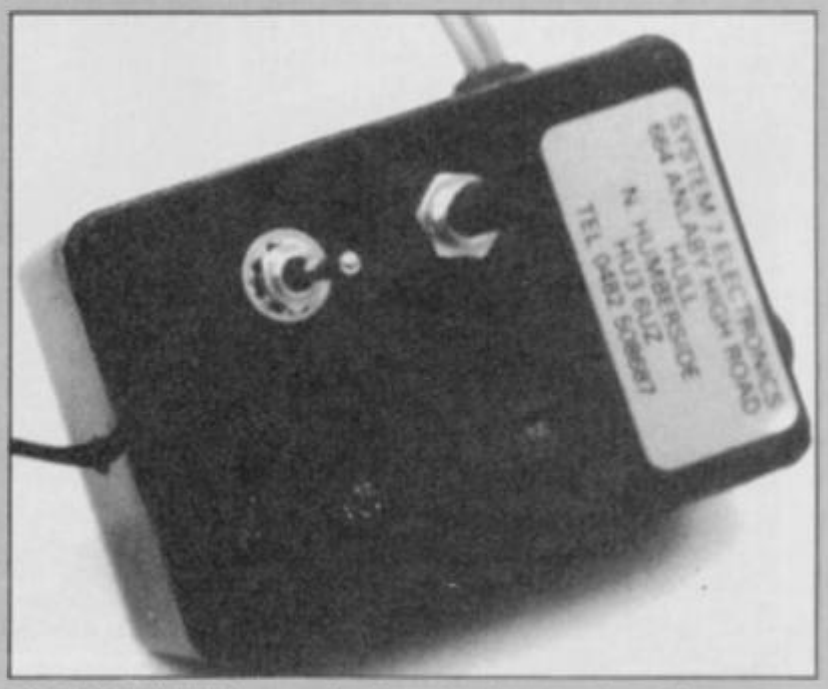
The new, enhanced Discovery 1 still works on the Spectrum Plus and rubber Spectrum. The only difference in the new version is the Discovery ROM which can be updated for a moderate sum.

The Discovery still has a 3.5in drive, parallel printer port, joystick port, monitor port, through connector and built-in power supply which also powers the computer.

Opus has gone a long way to correcting some of the more glaring omissions in the 128. It is, as far as I know, the only disc drive manufacturer to have successfully converted its product to run on the 128, and so for that reason alone should do well.

Opus Supplies Ltd, 55 Ormside Way, Holmethorpe Industrial Estate, Redhill, Surrey RH1 2LW.

Reduce wear on sockets



OLD FAVOURITES never die, they simply get reviewed in *Sinclair User*.

System 7 has released a Load/Save switch and reset switch in one. This little unit combines two very useful features at the modest sum of £7.70 inc.

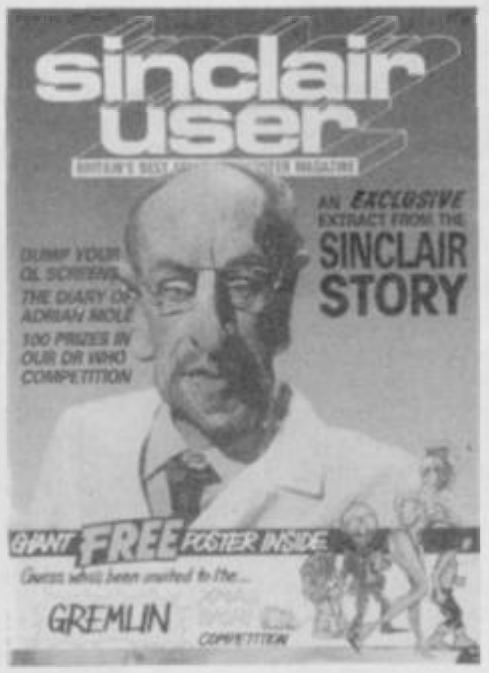
For those who have never heard of a Load/Save switch, it merely allows you to Load and Save without having to pull one of the plugs out of the Spectrum. Similarly, the reset switch can reset the computer without having to pull the power lead out. As the Spectrum sockets tend to wear quite quickly this is a definite advantage.

A worthwhile unit at the price.

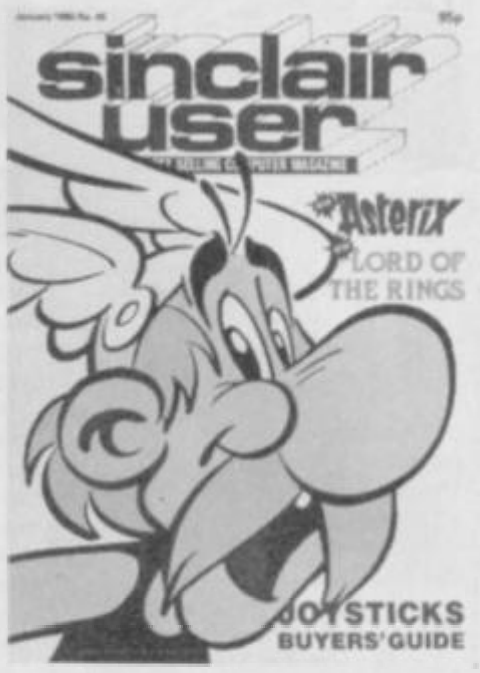
System 7 Electronics, 664 Anlaby High Road, Hull, North Humberside HU3 6UZ. Tel: 0482-508687.

BACK ISSUES

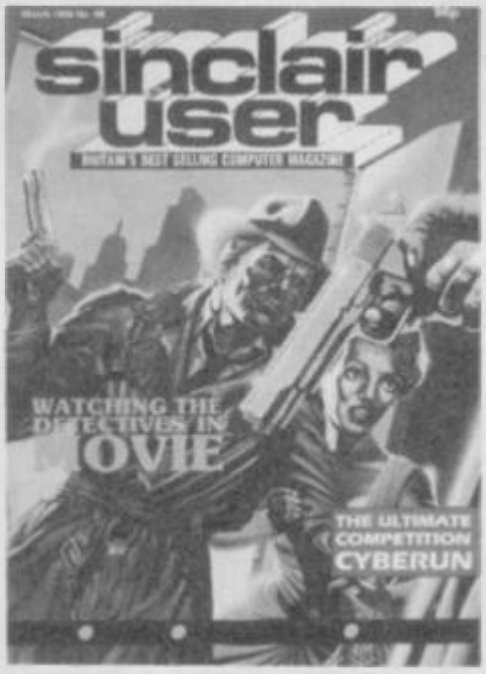
November 1985
Spectrum 128 launched in Spain.
Chris Bourne gives the low-down on nasty American software.
Exploring the world of **MUD.**
Arrival of the classic **Elite.**
Free 50 Classic games booklet.


sinclair user
AN EXCLUSIVE EXTRACT FROM THE SINCLAIR STORY
DUMP YOUR OL SCREWS
THE DIARY OF ADRIAN MOLE
100 PRIZES IN OUR DR WHO COMPETITION
GIANT FREE POSTER INSIDE
GREMLIN

December 1985
Clive the whizz-kid schoolboy — first instalment of **The Sinclair Story.**
Delta 4 and St Bride's interviewed.
Classic **Back to Skool** and **Shadow of the Unicorn.**
Free Gremlin poster.



January 1986
The Sinclair Story concluded.
Meet the brains behind Micronet.
New Year fun with Gremlin.
Reviews of **Tau Ceti, Spellbound, Gladiator, International Karate.**



March 1986
The Classic **Movie** reviewed.
The twilight world of hacking.
The 128 arrives — at last.
A guided tour around the worlds of **Tau Ceti.**

February 1986
The new look *Sinclair User* — more games reviews in greater depth.
Do games drive you mad? inside the 128.
Free Gordo Adventure booklet.

Please send me the following back issues (£1 each including P&P).

Issue dated:

1. _____

2. _____

3. _____

I enclose a cheque/PO to the sum of _____

Name _____

Address _____

_____

Please post to: Sinclair User Back Issues Department, Priory Court, 30-32 Farringdon Lane, London EC1R 3AU.

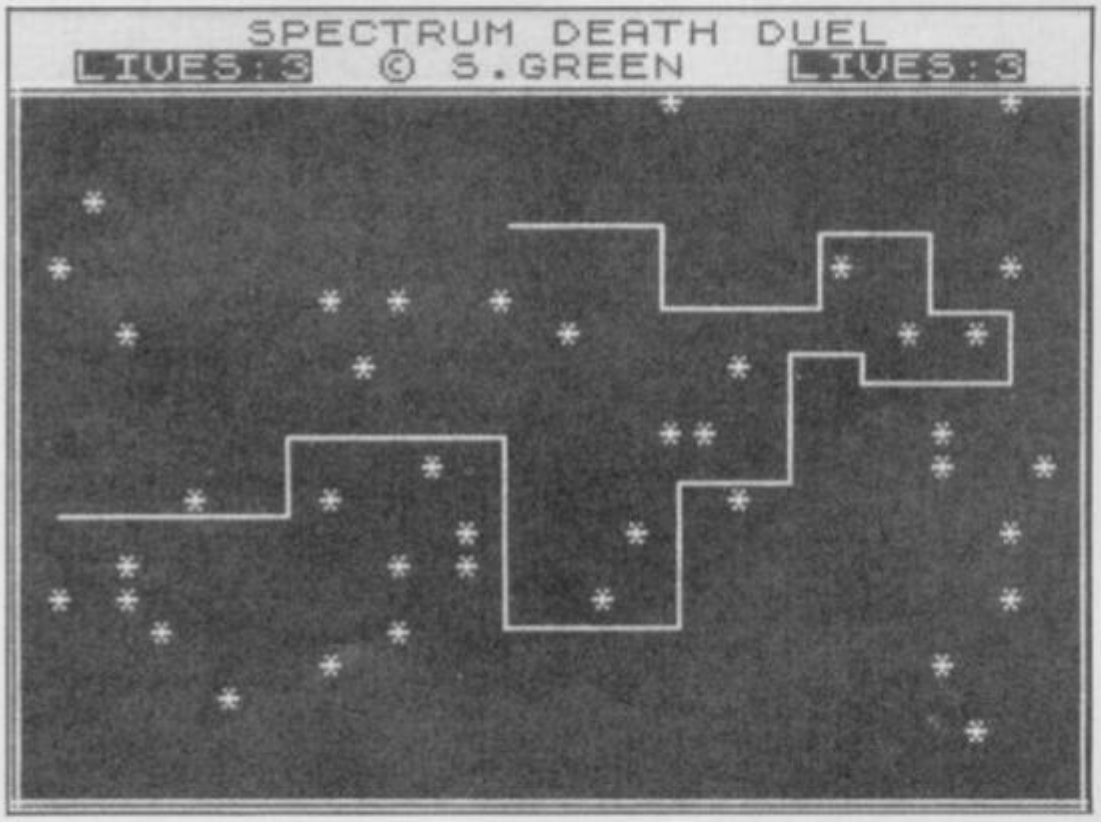
DEATH DUEL

RIDE YOUR BIKE in the Death Duel — if you dare.

Stewart Green of Halesowen in the West Midlands has written a fast moving game for any Spectrum, which contains machine-code to pep up the pace. One or two players can take part, and the idea is to keep moving without hitting the obstacles or running over you or your opponents trail.

There are three listings. Type in listing one and save it to tape. Then clear your Spectrum and type in listing two, the code loader. RUN this program and type in the numbers from listing three as you are requested for them. Do not type in the address at the beginning of each line or the checksum at the end — those are just there to help you know where you are and check each line on screen as you type it in.

The program uses our special instructions for graphics characters, so please read the instructions at the beginning of Program Printout before typing in the listings.




```
  5 LET PL=0: INK 0: PAPER 7: B
RIGHT 1: BORDER 7: FLASH 0: CLS
 15 LET TIME=32627: LET HS=900:
 POKE 23658,8: DIM p$(8): DIM h$
(5,8)
 100 INK 0: PAPER 7: CLS : PRINT
 '"(6*sp)SPECTRUM  DEATH  DUEL":
 PRINT "(5*sp)~~~~~~~~~~~~~~~~~~
~~~~~~
 110 PRINT  PAPER 6; INK 3;AT 5,
8; FLASH 1;"(14*sp)";AT 6,8;" Wh
ich level? ";AT 7,8;"(14*sp)"
 111 RESTORE 120: FOR c=0 TO 9:
READ a$: PRINT AT 10+c,8;c;"(sp)
-(sp)";a$: NEXT c
 121 DATA "LIGHTNING","SUPER FAS
T","FAST","SPEEDY"
 122 DATA "AVERAGE","SLUGGISH","
SLOW","VERY SLOW","GRANNY SPEED"
 123 DATA "ORION SNAIL PACE"
 130 LET A$=INKEY$: BEEP .03,RND
*2: IF A$>"9" OR A$<"0" THEN  GO
 TO 130
 140 LET A=VAL A$: PRINT AT 10+A
,8; OVER 1; FLASH 1; PAPER 6;" "
: POKE 32623,A*A+1
 150 BEEP .2,-10: BEEP .2,-20: P
RINT AT 21,0;" DO YOU WANT INSTR
UCTIONS? (Y/N)"
 160 IF INKEY$="N" THEN  GO TO 8
00
 170 IF INKEY$<>"Y" THEN  BEEP .
03,RND*2: GO TO 160
 200 GO SUB 3000
 800 LET LIVES1=3: LET LIVES2=3
 900 POKE 32621,LIVES1: POKE 326
22,LIVES2
1000 CLS : PRINT AT 8,9;"COUNT D
OWN": FOR A=99 TO 0 STEP -1: PRI
NT  INK 3; INVERSE 1;AT 10,13;"(
sp)";AT 10,13+(A<10);A: BEEP .00
5,A/2+10: NEXT A
1005 POKE TIME,0: POKE TIME+1,0:
 BEEP .2,0: INK 0: PAPER 4: CLS
: BORDER 4:: PRINT AT 0,7;"SPECT
RUM DEATH DUEL": PRINT  INVERSE
1;AT 1,2;"LIVES:";PEEK 32621;AT
1,23; INVERSE 1;"LIVES:";PEEK 32
622
1007 IF PL THEN  FOR F=0 TO 10*V
AL A$+1: PRINT AT RND*19+2,RND*3
0;"*": NEXT F
1010 LET p=USR 32000
1015 INK 0: PAPER 7: IF PEEK 326
22<LIVES2 THEN  LET LIVES2=PEEK
32622: PRINT  FLASH 1;AT 1,29;LI
VES2
1020 IF PEEK 32621<LIVES1 THEN
LET LIVES1=PEEK 32621: PRINT  FL
ASH 1;AT 1,8;LIVES1
1030 IF NOT PL THEN  GO TO 1060
1040 LET T=PEEK TIME+256*PEEK (T
IME+1): PRINT  PAPER 6;AT 10,11;
" TIME ";AT 11,12;T: IF T>HS THE
N  LET HS=T: PRINT  FLASH 1;AT 1
3,7;" NEW HIGH-SCORE ": GO TO 20
00
1050 POKE 32621,1: PRINT #1;"  P
ress  'ENTER'for another try ":
PAUSE 0: IF INKEY$=CHR$ 13 THEN
```

► 100

Graphic Instructions

THERE ARE three types of abbreviation to watch out for in our program listings this month. As always (sp) means 'type one space', so (32*sp) would mean 'type 32 spaces'. Don't enter the brackets in such cases, or commas where they separate two graphics abbreviations.

If you get an underlined capital letter, enter that letter in graphics mode. It will not appear on the screen with an underline; that's just our way of distinguishing it from an ordinary capital letter.

Finally, (ig8) refers to the inverse of the graphics symbol on key 8. You obtain it by going into graphics mode and then pressing 8 while holding down Caps Shift. This should result in a solid black square.

Tripods Goofo

Blunder time is upon us once more. **The Tripods** caused all sorts of trouble in February. Somehow we managed to leave one line of code out of the listing.

On page 116, at line 5030, you'll see that line has four lines of code before going over to the next column. At the end of those four lines, after . . . 26FF, insert the following line: E3A52C3A330123A53C39238E73E21325 and then continue with 4C33 . . . as printed. All should then be well. Sorry!

DEATH DUEL

```
 GO TO 1005
1055 GO TO 100
1060 IF NOT LIVES1 OR NOT LIVES2
 THEN  GO TO 2000
1070 FOR Q=0 TO 100: NEXT Q: GO
TO 1005
2000 BORDER 7: FOR a=20 TO 50: B
EEP .01,a: BEEP .01,a+19: NEXT a
: CLS : PRINT AT 18,3;" PLEASE T
YPE IN YOUR NAME ";AT 19,7;" MAX
. 8 LETTERS ": INPUT  LINE P$
2005 CLS : INK 4: PRINT  FLASH 1
;AT 2,8;"(ig8,sp,ig8,sp,ig8,sp,i
g8,sp,ig8,sp,ig8,sp,ig8,sp,ig8)"
2010 PRINT  FLASH 1;AT 3,8;" GRI
D::WINNERS "
2015 PRINT  FLASH 1;AT 4,8;"(ig8
,sp,ig8,sp,ig8,sp,ig8,sp,ig8,sp,
ig8,sp,ig8,sp,ig8)"
2020 INK 0: FOR F=4 TO 1 STEP -1
: LET H$(F+1)=H$(F): NEXT F: LET
 H$(1)=P$
2030 LET C=0: FOR F=1 TO 5: PRIN
T AT 6+2*F,8;"GAME ";F;"  ";H$(F
): NEXT F
2240 PRINT AT 21,5;" ANOTHER GAM
E? (Y/N)": LET C=0: LET C1=2
2250 IF INKEY$="Y" THEN  GO TO 1
00
2260 IF INKEY$="N" THEN  STOP
2270 BEEP .1,C: LET C=C+C1: IF C
>20 THEN  LET C1=-2
2280 IF C<10 THEN  LET C1=2
2290 GO TO 2250
3000 BORDER 5: PAPER 5: INK 0: C
LS
3010 PRINT '" You and your part
ner are about to fight to the de
ath in the     infamous -Games Ar
ena."
3020 PRINT '" The only way to su
rvive is to  avoid any contact,
either with  the walls or the  s
olid Krypton discharge from your
 light cycles"
3030 DIM S$(352): PAPER 6: PRINT
 AT 11,0;S$:
3050 PRINT  PAPER 5;AT 12,12;" K
EYS ": PRINT 'TAB 3;"PLAYER ONE
    PLAYER TWO"
3060 PRINT TAB 3;"Q  A  X  C
 P  L  M  S/S"
3070 PRINT ''TAB 6;"UP DOWN LEFT
 RIGHT"
3080 PRINT #1;"  HOW MANY PLAYER
S  1/2 ": PAUSE 0: INPUT ""
3090 IF INKEY$="1" THEN  POKE 32
186,24: POKE 32187,46: LET PL=1:
 RETURN
3100 IF INKEY$="2" THEN  POKE 32
186,38: POKE 32187,00: LET PL=0:
 RETURN
3110 GO TO 3080
9000 LOAD ""CODE 32000,620: RUN
```

```
9999  SAVE "DEATH DUEL" LINE 900
0: SAVE "LOADING"CODE 32000,620
```

Listing 2

```
  10 FOR a=32000 TO 32620 STEP 5
  20 PRINT a;": ";: LET tot=0
  30 FOR b=0 TO 4
  40 INPUT "Next Byte? ";c: IF c
>255 OR c<0 THEN  BEEP .5,-10: G
O TO 40
  50 POKE (a+b),c: PRINT TAB 7+4
*b;c;
  60 LET tot=tot+c: NEXT b
  70 PRINT TAB 4*b+6;"= ";tot: B
EEP .1,0: NEXT a
```

Listing 3

```
32000:  33  64  88  229 209= 623
32005: 19  54  7   1   192= 273
32010: 2   237 176 33  64 = 512
32015: 64  6   175 205 97 = 547
32020: 126 62  160 119 16 = 483
32025: 248 229 209 21  21 = 728
32030: 62  255 6   32  119= 474
32035: 18  44  28  16  250= 356
32040: 33  255 87  6   175= 556
32045: 205 69  126 62  5  = 467
32050: 119 16  248 229 209= 821
32055: 20  20  62  255 6  = 363
32060: 32  119 18  45  29 = 243
32065: 16  250 50  255 85 = 656
32070: 17  43  64  33  60 = 217
32075: 127 6   10  197 229= 569
32080: 213 70  33  0   60 = 376
32085: 17  8   0   25  16 = 66
32090: 253 209 6   8   213= 689
32095: 126 18  35  20  16 = 215
32100: 250 209 225 35  28 = 747
32105: 193 16  226 33  225= 693
32110: 72  34  102 127 33 = 368
32115: 254 72  34  106 127= 593
32120: 62  16  50  104 127= 359
32125: 50  108 127 62  1  = 348
32130: 50  101 127 62  4  = 344
32135: 50  105 127 38  0  = 320
32140: 205 239 125 124 254= 947
32145: 0   40  3   50  101= 194
32150: 127 58  104 127 95 = 511
32155: 205 38  126 123 50 = 542
32160: 104 127 42  102 127= 502
32165: 58  104 127 166 40 = 495
32170: 10  58  109 127 61 = 365
32175: 50  109 127 195 140= 621
32180: 126 58  104 127 182= 597
32185: 119 38  0   205 5  = 367
32190: 127 124 254 0   40 = 545
32195: 3   50  105 127 58 = 343
32200: 108 127 95  205 70 = 605
32205: 127 123 50  108 127= 535
32210: 42  106 127 58  108= 441
32215: 127 166 40  10  58 = 401
32220: 110 127 61  50  110= 458
32225: 127 195 140 126 58 = 646
32230: 108 127 182 119 205= 741
32235: 236 126 24  155 6  = 547
32240: 254 72  237 120 203= 886
32245: 87  32  10  237 120= 486
32250: 203 95  40  12  203= 553
32255: 212 24  8   237 120= 601
32260: 203 95  32  2   203= 535
32265: 196 6   251 237 120= 810
32270: 203 71  32  10  6  = 322
32275: 253 237 120 203 71 = 884
32280: 200 203 220 201 6  = 830
32285: 253 237 120 203 71 = 884
32290: 192 203 204 201 58 = 858
32295: 101 127 42  102 127= 499
32300: 87  203 66  196 134= 686
32305: 126 203 82  196 123= 730
32310: 126 203 74  196 97 = 696
32315: 126 203 90  196 69 = 684
32320: 126 34  102 127 201= 590
32325: 124 230 7   254 0  = 615
32330: 40  2   37  201 124= 404
32335: 230 248 198 7   103= 786
32340: 125 214 32  111 208= 690
32345: 124 254 64  200 214= 856
32350: 8   103 201 124 230= 666
32355: 7   254 7   40  2  = 310
32360: 36  201 124 230 248= 839
32365: 103 125 198 32  111= 569
32370: 208 124 254 80  200= 866
32375: 198 8   103 201 123= 633
32380: 7   95  208 125 230= 665
32385: 31  61  216 45  201= 554
32390: 123 15  95  208 44 = 485
32395: 201 14  3   6   255= 479
32400: 197 17  2   0   97 = 313
32405: 104 205 181 3   193= 686
32410: 16  244 6   0   16 = 282
32415: 254 17  200 0   33 = 504
32420: 232 3   205 181 3  = 624
32425: 6   8   197 120 7  = 338
32430: 7   7   14  0   6  = 34
32435: 3   33  0   88  229= 353
32440: 209 19  119 237 176= 760
32445: 33  15  1   17  3  = 69
32450: 0   229 205 181 3  = 618
32455: 225 17  100 0   167= 509
32460: 237 90  125 254 255= 961
32465: 32  237 193 16  213= 691
32470: 6   3   33  0   88 = 130
32475: 229 209 19  54  71 = 582
32480: 237 176 33  160 15 = 621
32485: 17  25  0   205 181= 428
32490: 3   201 33  208 7  = 452
32495: 17  1   0   205 181= 404
32500: 3   58  111 127 16 = 315
32505: 254 61  32  251 42 = 640
32510: 115 127 35  34  115= 426
32515: 127 201 6   127 14 = 475
32520: 254 237 120 203 87 = 901
32525: 32  10  237 120 203= 602
32530: 79  40  12  203 212= 546
32535: 24  8   237 120 203= 592
32540: 79  32  2   203 196= 512
32545: 6   223 237 120 203= 789
32550: 71  32  9   6   191= 309
32555: 237 120 203 79  200= 839
32560: 203 220 6   191 237= 857
32565: 120 203 79  192 203= 797
32570: 204 201 127 32  83 = 647
32575: 46  71  82  69  69 = 337
32580: 78  32  58  105 127= 400
32585: 42  106 127 87  203= 565
32590: 66  196 134 126 203= 725
32595: 74  196 97  126 203= 696
32600: 82  196 123 126 203= 730
32605: 90  196 69  126 34 = 515
32610: 106 127 201 12  139= 585
32615: 76  4   4   238 72 = 394
32620: 0   0   0   0   0  = 0
```

HALLS OF SLIME

LITTLE HOVERBOTS should stay away from the slime. Unfortunately you're stuck with a whole cryptful of the stuff, and must hold the corrosive muck back as long as you can.

***Crypts of Slime** by J Wood of Wednesbury in the West Midlands runs on any Spectrum, and is a good example of what you can do with a short simple program — it's fast, entertaining and well-designed.*

It also uses our special abbreviations for graphics characters, so read the instructions on the first page of Program Printout before you type in the listing.

Lines 1 to 5 Variable **hi** will hold the hi-score, and **h$** the name of the current champion. Then at line 5 the program is sent to a subroutine to set up the user-defined graphics.

```
 1 LET hi=0: BRIGHT 1
 2 DIM h$(6): LET h$="Woody"
 5 GO SUB 1000
```

Lines 6 to 7 Variable **s** will hold the current score. The program is then sent to a routine which prints up the instructions.

```
 6 LET s=0
 7 BORDER 0: CLS : GO SUB 500:
BORDER 2
```

Lines 8 to 22 Variable **co1** is the time limit for each level — it starts at 400. Variable **co** is the time taken so far, and **sm** records whether you've used the hyperbomb or not. The array **d** is set to hold 31 numbers which will be the length of each column of slime on the screen. **a$** holds the three graphics which make up the tip of a slime column, and **a** holds your position on the screen, which starts at 10, one third of the way along. Remember to enter underlined letters in graphics mode!

```
 8 LET co1=400
 9  LET co=0: LET sm=1
10 CLS : DIM d(31)
21 LET a$="ABC"
22 LET a=10
```

Lines 23 to 26 Line 23 prints two rows of black squares at the top of the cavern, and lines 24 and 25 put the hi-score details on the screen.

Line 26 then throws a border of brickwork — graphics symbol E — around the whole lot.

```
 23 FOR f=1 TO 31: LET d(f)=2:
BEEP .01,f: PRINT AT 1,f;"(ig8)"
;AT 2,f;"(ig8)": NEXT f
 24 PRINT #1;AT 0,20;"HIGH:0000
00";AT 0,31-LEN STR$ hi;hi
 25 PRINT #1;AT 1,0;"HIGH SCORE
IS BY -";h$
 26 PAPER 2: INK 6: PRINT AT 0,
0;"(32*E)": FOR f=0 TO 17: PRINT
 AT f,0;"E";AT f,31;"E": NEXT f:
 PRINT AT 21,0;"(32*E)": PAPER 0
: INK 4
```

Lines 30 to 40 These lines choose a column of slime at random and then inspect the appropriate number in array **d** to see how long it is. Be careful of the letter 'l's and numeral '1's — the former have a flat top and the latter a pointed top.

Having selected a column, line 30 checks to see if it has reached the bottom of the screen in which case the game is over — GOTO 300. If not, the length is increased by two and one of the column tip graphics is printed at the end.

```
 30 LET l=INT (RND*30)+1: IF d(
l)>=19 THEN  GO TO 300
 31 LET n=(RND*2)+1
 40: PRINT AT d(l)+1,l;"(ig8)";
AT d(l)+2,l;a$(n): LET d(l)=d(l)
+1
```

Lines 45 to 50 Your move is now made. Logic operations are used to check which key you have pressed — regular readers should now be familiar with these. Lines 46 and 47 deal with the edge of the screen and give a wraparound effect if you move off one side. Line 50 then prints spaces over your old position and the graphics for your hoverbot in the new position.

```
 45 LET a=a+(INKEY$="p")-(INKEY
$="o")
 46 IF a<1 THEN  PRINT AT 19,1;
"(sp)";AT 20,1;"(sp)": LET a=30
 47 IF a>30 THEN  PRINT AT 19,3
0;"(sp)";AT 20,30;"(sp)": LET a=
1
 50 PRINT AT 19,a-1; INK 6;"(sp
)E(sp)";AT 20,a-1;"(sp)G(sp)"
```

▶ 102

HALLS OF SLIME

Lines 55 to 100 Line 55 checks to see if you have fired and if so sends the program to the routine at 200. Line 60 increases the time you have taken, **co**, by one and then subtracts that from the time limit and prints it on the screen.

Line 70 checks to see if you have survived the time limit and if so increases the limit, your score, and sends you back to line 9 for a new screen. Line 80 checks to see if you have fired the hyperbomb. If so, **sm** is set to zero and you go to line 10 for a new screen, without affecting time taken and hyperbomb.

Line 100 sends you back to line 30 to continue the game if you haven't been killed or completed a screen in some way.

```
101 ◄  55 IF d(a)>1 THEN  IF INKEY$="
q" THEN  GO SUB 200
  60 LET co=co+1: PRINT #1;AT 1,
25;co1-co;"(sp)"
  70 IF co>co1 THEN  LET co1=co1
+100: LET s=s+co: PRINT #1;AT 0,
0;"SCORE:";s: BEEP 1,20: GO TO 9
  80 IF INKEY$="0" AND sm=1 THEN
  LET sm=0: GO TO 10
 100 GO TO 30
```

Lines 200 to 210 This is the fire routine. The missile, graphics D, is printed all the way up the screen until it reaches the slime, with a space printed in its previous position each time so as not to leave a trail. When it hits the slime that retreats by one square. Since it increases by two squares when chosen, you can never beat it all back, but must try to stop any one column getting too far.

Line 205 makes sure the slime doesn't retreat past its starting point, and lines 207 and 208 adjust and print the score. The longer the slime column the higher the score. Line 210 sends it back to the main program.

```
 200 BEEP .01,30: FOR f=17 TO d(
a)+2 STEP -1: PRINT AT f,a;"D";A
T f+1,a;"(sp)": NEXT f: LET d(a)
=d(a)-1: PRINT AT d(a)+2,a;"A";A
T f+1,a;"(sp)"
 205 IF d(a)<2 THEN  LET d(a)=2:
 GO TO 210
 206 BEEP .01,10
 207 LET s=s+d(a)
 208 PRINT #1;AT 0,0;"SCORE:";s
 210 RETURN
```

Lines 300 to 303 end the game and update the hi-score table if necessary.

```
 300 PRINT  PAPER 2; INK 6; FLAS
H 1;AT 11,12;"GAME OVER": BEEP .
5,10: BEEP .3,5: BEEP .4,5
 302 IF s>hi THEN  LET hi=s: FOR
 f=1 TO 10: FOR g=1 TO 7: BORDER
 g: BEEP .01,f: NEXT g: NEXT f:
INPUT AT 21,0;"A new high score
! Enter name   >"; LINE h$: GO T
O 6
 303 PAUSE 0: GO TO 6
```

Lines 500 to 520 print out the instructions.

```
 500 PRINT AT 2,11;"SLOP-SLAP";A
T 5,0;" Trapped in side the cryp
ts of  doom, you a meagre Mk1 ho
verbot must prevent the slop-sla
p acid slime from reaching the g
round, where it will dissolve yo
ur     vectaglide system, and tu
rn you to quicksilva."
 510 PRINT '"Luckily, you have y
our missile  firing head fitted,
 and a singlehyper bomb to help
you !"''"O Left   P Right   Q Fi
re"''"0 HYPER BOMB"
 520 PRINT '"Press a key...": PA
USE 0: CLS : RETURN
```

Lines 1000 to 1100 This pokes in the data for the user-defined graphics. For some reason Woody has used a mixture of decimal and BIN numbers for the data. This does however allow you to see the shape of the hoverbot, given by the ones in the BIN numbers from line 1060 to 1075.

```
1000 FOR f=USR "A" TO USR "C"+7:
 READ b: POKE f,b: NEXT f
1010 DATA 255,255,255,255,126,12
2,122,60
1020 DATA 255,255,255,BIN 111011
11,BIN 00000110,0,0,0
1030 DATA 255,255,126,126,60,60,
60,BIN 00011000
1040 DATA 16,56,16,16,16,16,56,4
0
1050 DATA 1,1,1,255,16,16,16,255
1060 DATA BIN 00100100
1061 DATA BIN 01100110
1062 DATA BIN 11111111
1063 DATA BIN 11111111
1064 DATA BIN 11111111
1065 DATA BIN 01111110
1066 DATA BIN 00011000
1067 DATA BIN 00111100
1068 DATA BIN 01111110
1069 DATA BIN 11011011
1070 DATA BIN 10111101
1071 DATA BIN 01111110
1072 DATA BIN 01111110
1073 DATA BIN 10111101
1074 DATA BIN 11000011
1075 DATA BIN 11000011
1100 RETURN
```

Line 9999 is irrelevant to the program itself. If you want to save the game so that it automatically runs when loaded, type GOTO 9999 when you have finished entering the listing.

```
9999 CLEAR : SAVE "SLAP-SLOP" LI
NE 1
```

Enigma Force

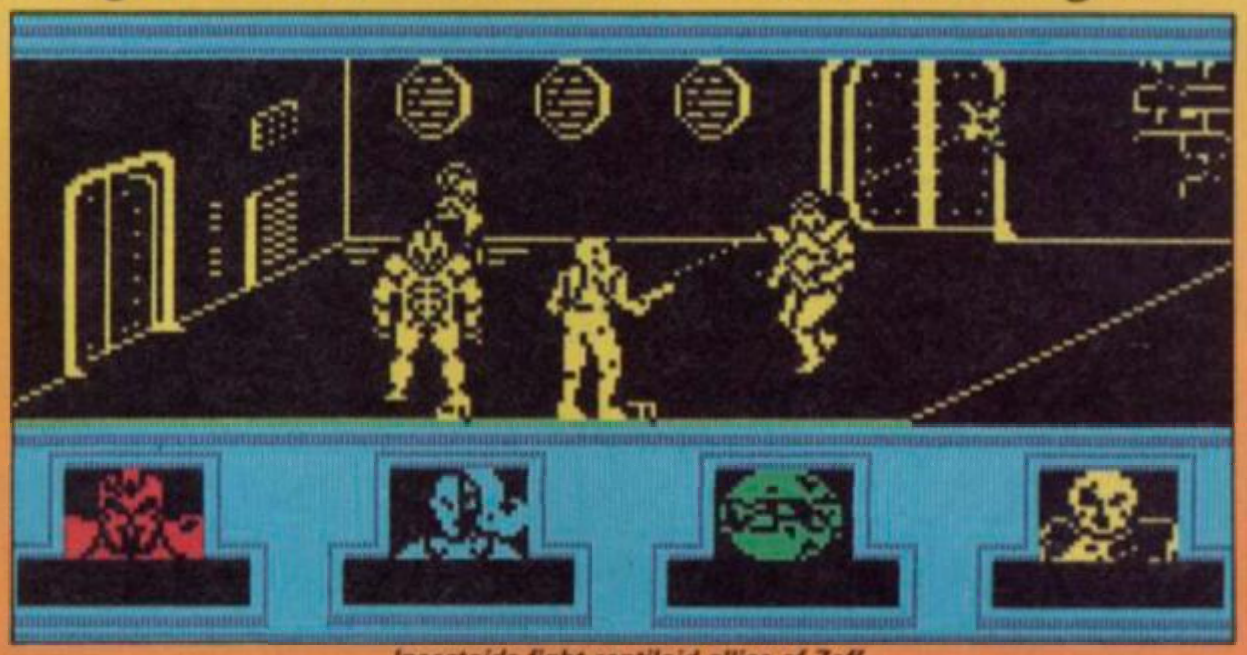
Zoff's back again and the galaxy stands on the brink of disaster. John Gilbert discusses Enigmateam tactics with Denton Designs

ENIGMATEAM is expendable. They allowed General Zoff, dictator of the Cosmos, to escape while he was being transported to the Emperor for final sentence. Their craft was brought down by the General's Psi power and now they must find him in the corridors of the city complex under team member Syylk's home world.

Destructor tugs are on the way. If you fail to capture Zoff the planet will be destroyed along with the Enigmateam and its inhabitants — the Reptiloids and Insectoids. Those races are at war and alliances must be formed before the General can be captured. Zoff will exploit the hatred of the lizards for the insects, and the Enigmateam must find a way of getting the insects onto their side.

"Zoff is basically a coward and needs an army to do his fighting for him," comments John Heap, the Denton Design programmer who was largely reponsible for the Spectrum version of **Enigma Force**. "You won't find him taking part in a fight, he just runs away."

Zoff is quick to make his alliance with the reptiles, but for Zark and his cohorts getting to know the Insectoids is not an easy task. For one thing the group does not know whether the insects will listen to their pleas for help, or just regard them as enemy agents who they must crush with their magenta mandibles.



Insectoids fight reptiloid allies of Zoff

GENERAL Malthadius Zoff, self-styled dictator of the Cosmos. Last seen escaping from the Enigmacraft on his way to the only escape pod on the planet. The Empire will reward Enigmateam if Zoff is recaptured. Failure to do so means death.

John thinks the solution to the problem is very logical. "As Syylk is a member of the insect race, he is the one who must look for the insect queen. She's the leader of her race and their meeting is the first major turning point in the game. Without an agreement between her and Syylk the team will be shot at by both reptiloids and insectoids."

To make the pact you should take all the team members into the room to the right of the crash site. This is a safe room off the path of insect and reptile patrols. You should then take Syylk back into the crash room, through the doors on the left and through the doors at the top of that screen. At one of those locations you will find a key. Pick it up and find a locked door only a few rooms away.

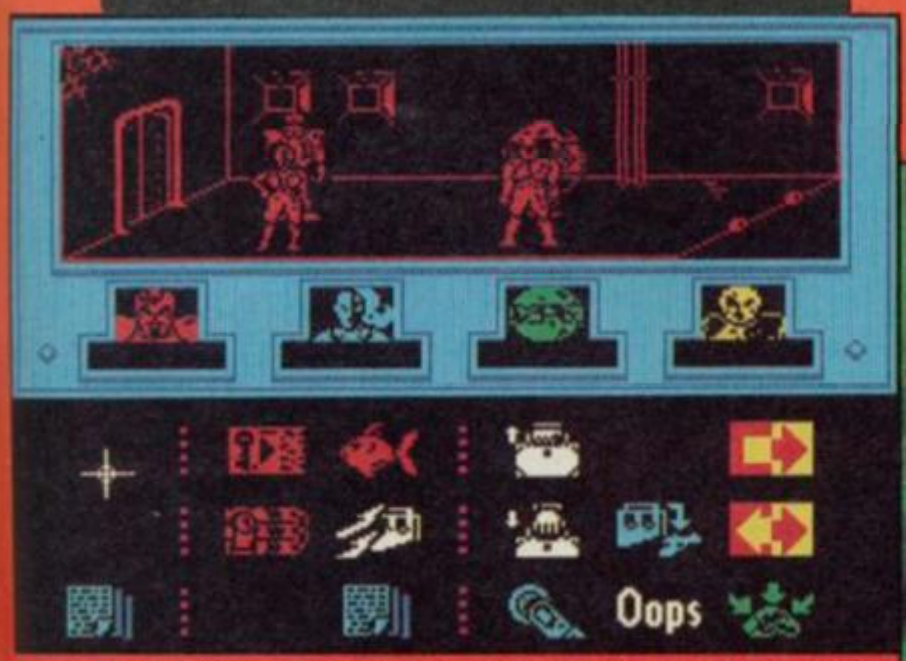
To use the key activate it and bump against the door you want to unlock. The door will slide open and you can enter.

Once through the door you are into Insectoid territory and if you hang around the queen will find you. "That's not advisable though," says John. "Reptiloids are always on the prowl and if you're not quick they'll get you."

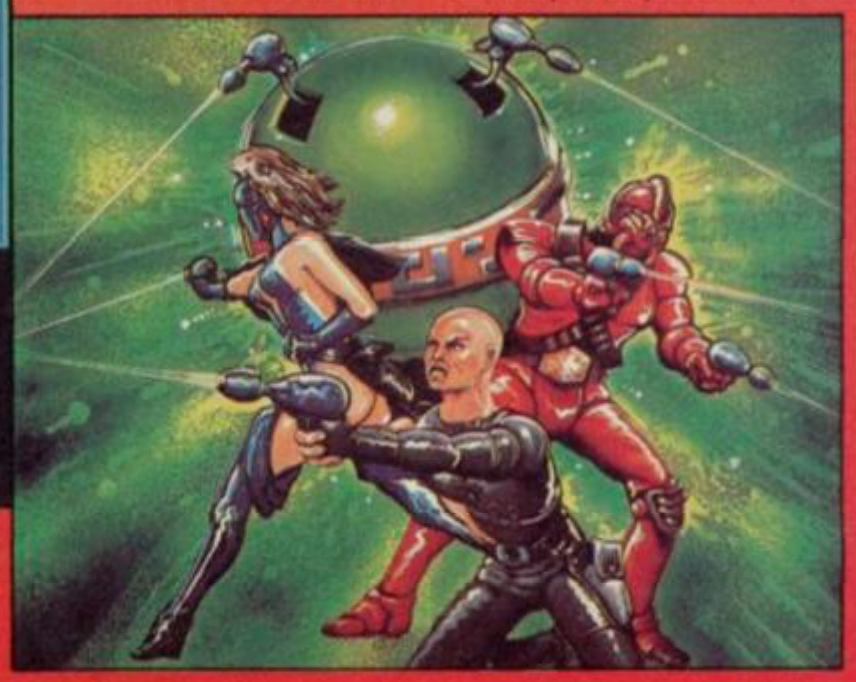
Once you've met the queen — and believe me it's a quick meeting with only a brief news flash on the screen to show that it's happened — you can start playing the game properly. "When you've found the queen the insects will stop attacking and you'll have free run of their armoury."

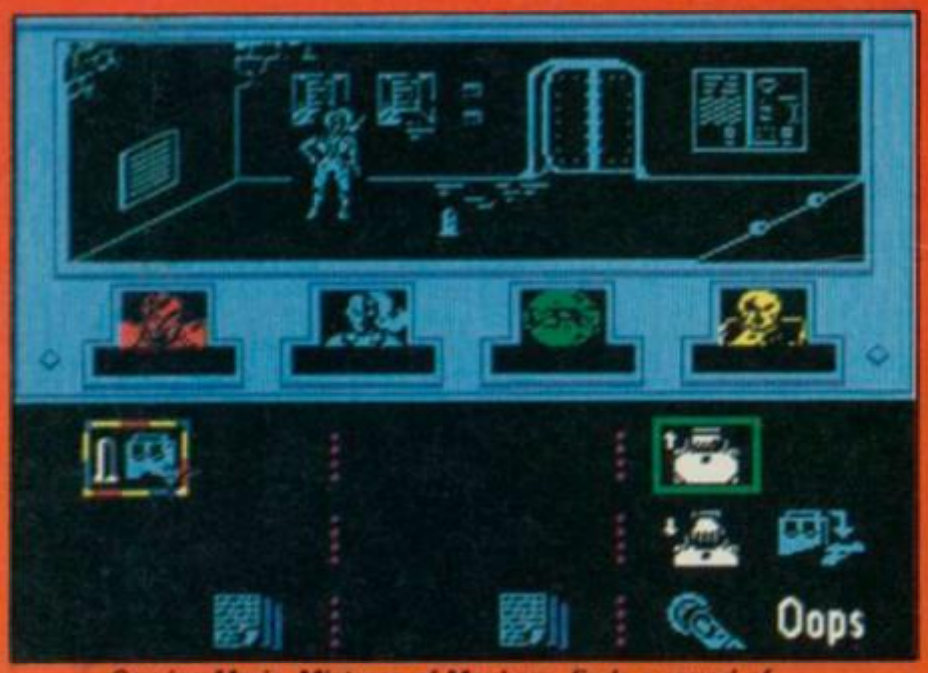
The armoury includes laser weapons and bombs. Syylk should take all the weapons available in that room and bring them back to the group. According to John Heap there is an inexhaustible supply of laser pods and bombs so you can make several trips to the armoury when your ammo runs

► 104



The Safe Room, just one door way from crash site. Enigmateam can relax here without disturbance





Sevrina Maris, Mistress of Mayhem, finds a round of ammunition. One bullet may be for Zoff

low. Syylk has one of the highest staminas of the group so he is able to carry heavy loads as long as he's not involved in combat.

If he does becomed involved with the reptiles on his way back to the group, use the mind probe which will transfer his control to your joystick. You can then move him out of the danger location with only a few hits from the reptile.

John Heap pours scorn on players who use mind probe all the time. "Once you know the map it's much easier to use the icons and make characters do several things one after the other. With mind probe you can't have all four characters moving around, performing different tasks."

Mind probe is a help in the early phase of the game when you're getting used to the layout of the city. Mapping is important so you can leave the rest of the group in the safe room by the crash sight and take the robot Maul to explore the 64 rooms.

The city hides many objects behind its doors, the most important of which is the toolkit. It is idcally suited for picking locks and one character in particular can use it. "Sevrina may have been the last of the Enigmateam characters to be created but she's the most important when you're exploring the maze. Once she has the toolkit she can open all but one of the doors in the complex. That's why it's not such a good idea to get her killed too early in the game."

Maul can also pick up ammo while he's on patrol but it's not advisable for him to keep it. "Maul's got his own lasers and he can stand any amount of reptile fire because of his armour. You're wasting ammo if you get Maul to pick it up."

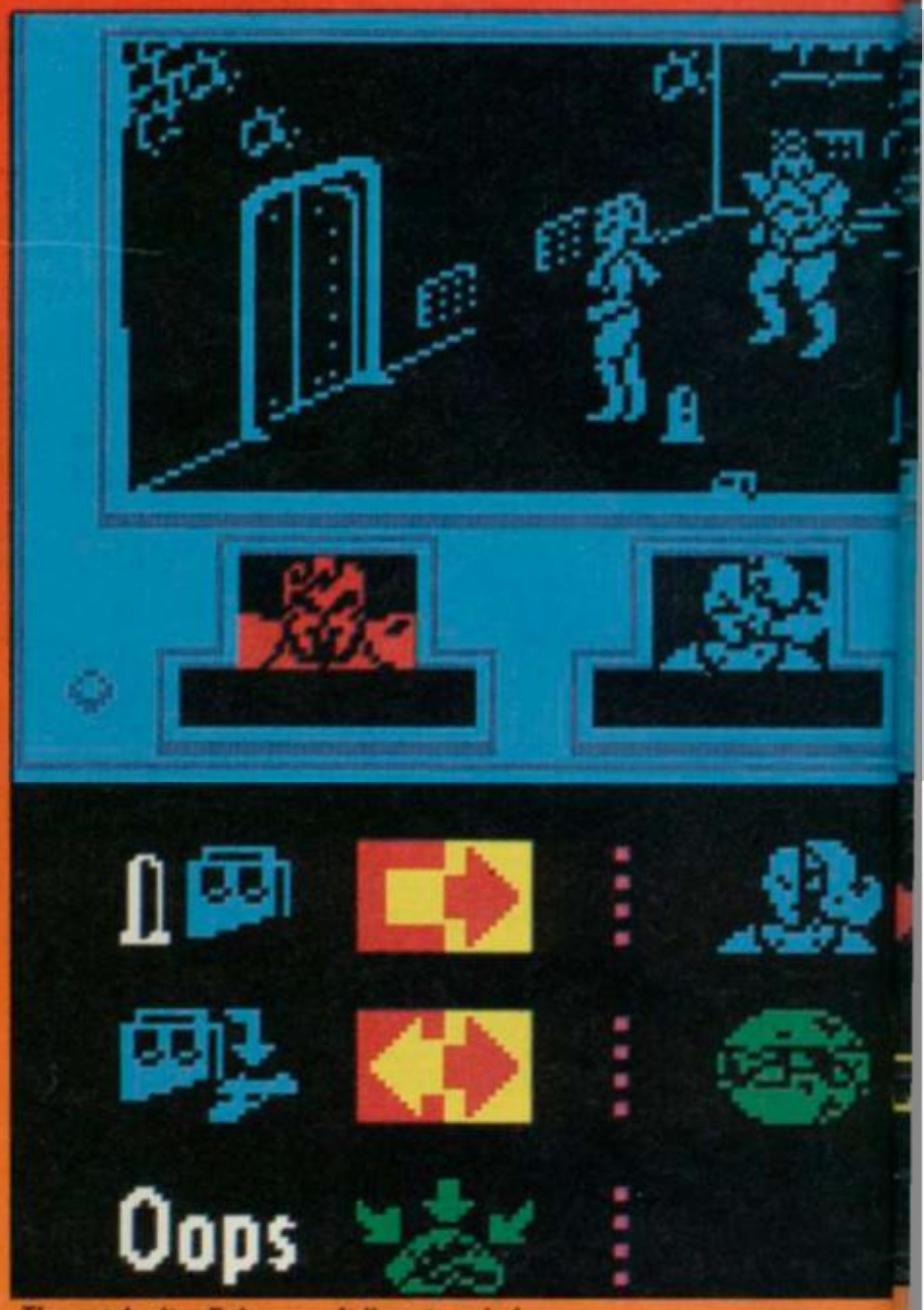
General Zoff is initially located in a random room within the maze and can be used as a hostage against the reptiles if you capture him. When you find him a message will flash up telling you he's in the room. You'll then have to chase him — a good time to be in mind probe mode.

There are two ways to capture Zoff. The first requires an in-depth knowledge of the city map and is best accomplished with Syylk or Zark. Don't use Maul as he's too slow and will lose the General.

Once you have found Zoff, locate a room in the maze with only one door. You can then push Zoff towards that room following him, using your knowledge of the map. He will go for the nearest unblocked exit so you can force him to move in the right direction by standing in front of the other exits as he tries to run for them.

The other method of capture cannot be accomplished using mind probe and will only work if you have all four members of **Enigma Force** acting as a team. Syylk should locate Zoff, then the other members of the team should block off the exits. He will then surrender.

Once you've captured the General you should keep him



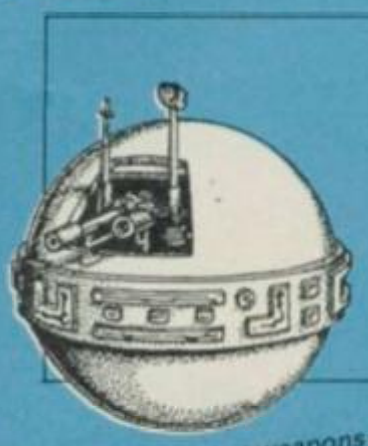
The crash site. Enigmacraft lies stranded

alive at all costs and go in search of the escape ship. By now time will be running out and if you want to see just how long you've got have a look at the status report which shows casualties for lizards and insects. If the total for either is more than 600 you're in trouble.

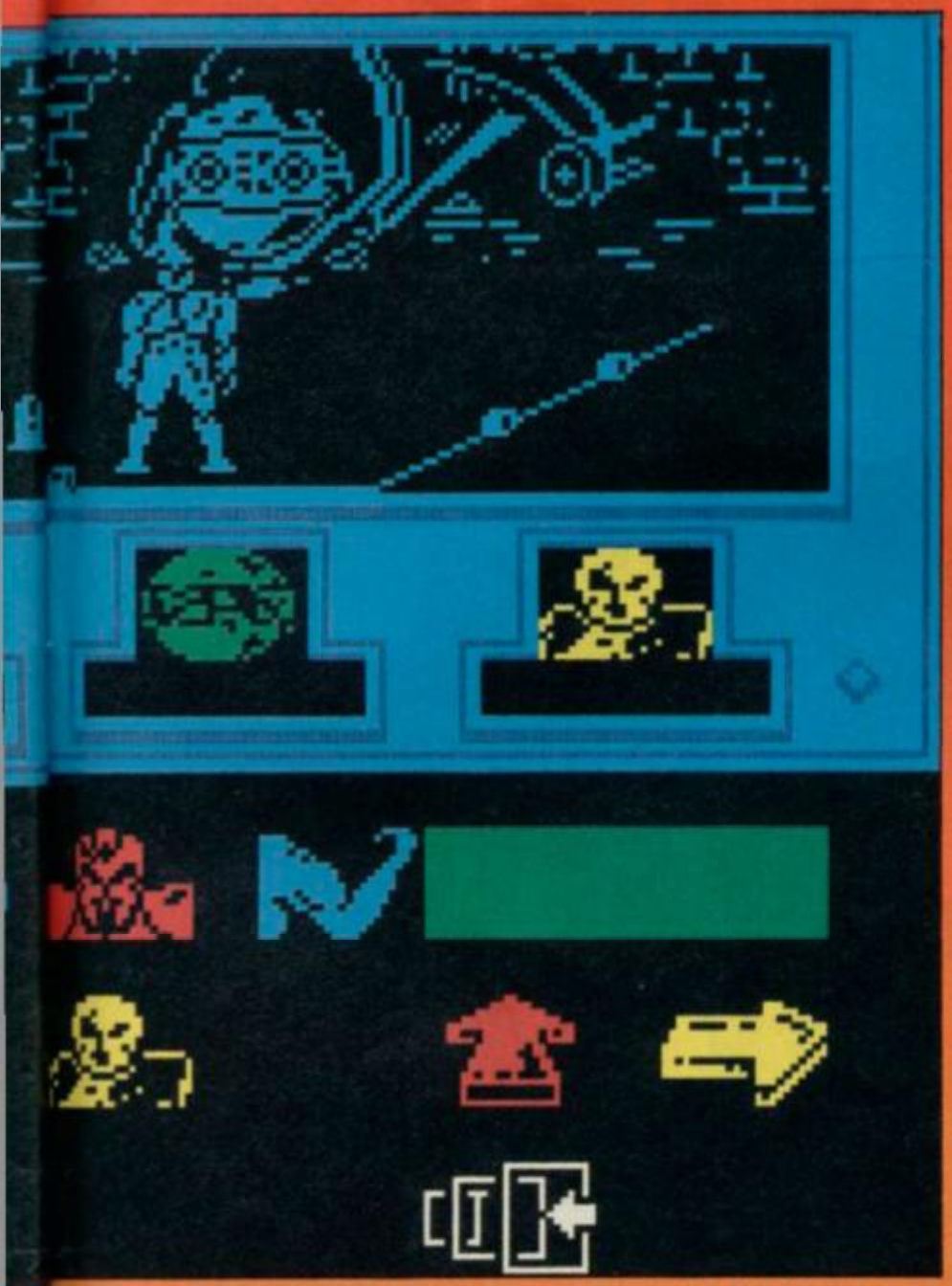
Denton wanted a way of timing the game to end without using an obvious clock. "We wanted something which would announce the end of the game with the destruction of the planet," Heap explains. "Some people think the casualty figures for the insects and reptiles are random numbers, they're not. You may not see

The Enigmateam

Zark Montor. *Leader of the team and a cyborg who is tough and resourceful. Horrific battle injuries, some of which were caused by General Zoff in the* ***Shadowfire*** *mission, have destroyed his body — most of which is now made up of plastoid organs. He will do anything to capture Zoff, even to the extent of sacrificing members of his crew. He is an expert with laser weapons and bombs.*



Maul. *A combat weapons droid who hovers above the floor. Two laser guns make him one of the most difficult characters to kill. He can be used as a lookout and as a block against reptiloid forces if a tactical withdrawal is required.*



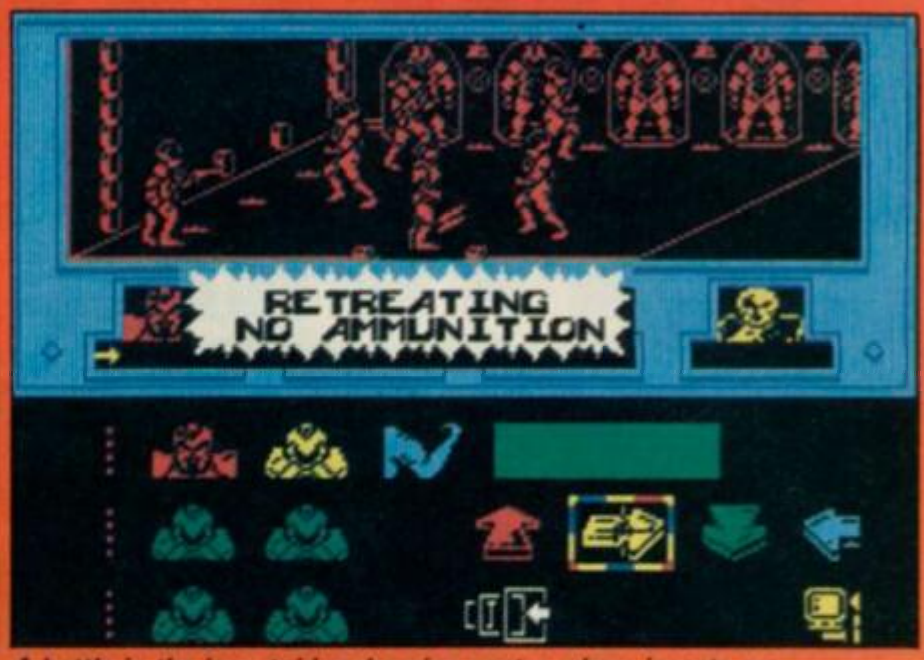
the battles between the two races but they're happening within the computer and the results are put on the status screen. "The computer picks a random number between 600 and 800 and when the casualties for one of the races hits that figure the destructor tugs arrive and the planet's blown to bits."

The next task is to find the ship — Zoff is never far from its location. It's behind a locked door but Sevrina with her wonder toolkit will not be much use this time. Zoff has the key and he is your prisoner but he won't give it up easily. He would rather die.

Once you've got past the locked door the ship is yours but, as John Heap explains, it's probably the only thing in the game with a conscience. "The ship has a drive which won't take off until every surviving member of the Enigmateam is on board. That means it's not a good idea to take group members off in different directions. . . but it's not quite as simple as that."

The whole game isn't as simple as that. As Heap says, everything may appear random but it has been plotted down to the finest detail. "There are pages of rules defining how fights occur, who carries what object and where characters are located. We could tell you what's going to happen in a particular situation but it's so complex that we've never tried. We let the computer take care of it."

It's nice to know that programmers like John Heap have control over their programs.



A battle in the insectoid recharging centre where insects are re-animated after death

INSECTOIDS
THE RACE which spawned team member,Syylk and which represent the 'good' interests on his home planet. They are a tight bunch and their society is structured around a queen who looks after the regeneration of forces and commands the insect guards and soldiers.

REPTILOIDS
CHAOTIC forces who only take orders from their commanders.

Their society is structured around individualism although they will stick together in a fight.

Syylk. Second in command and a member of the insectoid race which inhabits the planet. He has a pathological hatred of Zoff because of the General's attempts to enslave his home world. His high stamina makes him a natural long distance traveller.

Sevrina Maris. Known as the Mistress of Mayhem, she was a late addition to the team — an afterthought. Among her many talents is a love of weapons and the ability to pick almost any lock. She is hardly a token woman as she is regarded as an expert. Her importance to the mission ensures that her colleagues keep her alive.

About the programmers

DENTON DESIGNS was formed in 1985 by a group of disenchanted Imagine programmers. The company included programmers John Heap, John Gibson, and Dave Colclough with graphic designers Steve Cain, Ally Noble and Karen Davis.

John Heap, head of the Spectrum *Enigma Force* ***programming team, had just joined Imagine when the company folded. He recalls "I was promised my own car and got a Sage — computer — to work with".***

Denton bought Imagine's Sages, wrote their own graphics and programming utilties, and started work on projects such as *Frankie Goes to Hollywood*, ***for Ocean and*** *Shadowfire*, ***for Beyond.***

Since the launch of *Enigma Force* ***at Christmas, Denton has split up. Steve Cain, John Gibson, Ian Weatherburn and Karen Davies have opened an agency for programmers while the second generation of Denton programmers, including John Heap and Dave Colclough, have reformed the company. Heap confirms "The split was amicable and we will continue to do contract work."***

Denton's books are full. They are currently working on two projects for Beyond and two for Ocean. Those will be available before the end of the year.

SINCLAIR USER ENTERS THE PROTECTION RACKET

with a subscription offer you can't refuse

Nobody's gonna give your copies of Sinclair User a tough time. Not when you get a sturdy FREE binder with every subscription. Big enough to take 12 issues and strong enough to keep thieving hands away.

Every month Sinclair User is packed full of game reviews, letters, hints and tips, hardware reviews, competitions and everything else you want to know about Sinclair Computing. Simply fill in the form below, and we will deliver direct to your door 12 pristine copies of Sinclair User, and your FREE binder.

	Tick box
I enclose a cheque/postal order for U.K. £15	☐
European £28	☐
(Surface) Rest of world £35	☐
Please debit my Access/Visa Account (Airmail) Rest of world £60	☐

Amount £_____ Number_____

Expiry date_____ Signed_____

Name_____

Address_____

Post code_____

Make cheques payable to Sinclair User. Allow 28 days for binder delivery. Return to: Carl Dunne, Sinclair User Subs, Mag Services, EMAP, 30-32 Farringdon Lane, London EC1R 3AU.

A Fairy Story

"We're pretty reliable you know"

A funny thing happened to Andrew Hewson last autumn. Are you sitting comfortably? Then he'll begin . . .

IN BETWEEN my monthly bouts of answering Helpline queries for Sinclair users I crack the whip over a team of programmers, sales and production staff based in Oxfordshire.

We've been at it for five years and more, and in the autumn of last year our activities at last came to the attention of another team of specialists, based in the flatlands of Cambridge, who apart from building the odd computer, occasionally experimented with watches, televisions, calculators, not to mention a mobile bath-tub.

The Cambridge lot, having discovered the hard way that designing fun products is not a comfortable way to make a living, put a new version of their staggeringly successful computer on the market. They chose to do so in Spain, for reasons which make a lot of sense to bank managers, creditors and men in dark suits, but which don't make much sense to you and me.

My Oxfordshire team watched the happening with interest, and we even got hold of one of the devices to give it a good going over. It had a few extra knobs and whistles but was nothing earth-shattering. We could easily work on it if — and when — it arrived in the UK.

And then came the phone call. . .

Ring-ring. . . ring-ring.

"Hello Oxford, this is Cambridge. Look, this is awfully important and secret but can you come and see us?"

Ho-hum, I think, what are they after?

"Sorry, terribly hush-hush old bean. Thing is, we know you're a bright lot, and this idea we've got is going to be just right for you. We've done all the really hard work, we just need you to do the easy bit. You'll make lots of money too."

I've been in the business long enough to know that when somebody is offering to do the hard bit and offering me money into the bargain, then something fishy is going on. When they start telling me how awfully clever we are etc I get nervous as well. Usually it means they think we're a bit slow on the uptake. Usually it means that we do the hard bit while they do the easy bit. Usually it's them who gets the money too.

"Well, I'm not sure," I reply decisively. "Tell you what, old chap, we'll send an official car to fetch you."

Next day, my heart thumping in anticipation, I stow my sandwiches and thermos flask in the C5's dear little boot, don plastic mac, goggles and ear-muffs and climb aboard.

Three days later I arrive, ► 108

A Fairy Story

tired but triumphant. The journey powered by the C5's surging motor and my own tireless legs has been smooth and uneventful save for an interesting encounter with a landlady in Bicester, who misunderstood my reference to joysticks. The C5 draws to a rest outside the shed at the bottom of Uncle Clive's garden. A burly commissionaire steps smartly forward.

I gaze around the estate. In the distance the dim outline of a mansion shimmers in the mist. Closer at hand I note that the cabbages are beginning to show and that the late potatoes are being lifted.

I step into the hallowed sanctum of the famous shed. Here the balding genius creates his wonder products with a loyal team of workaholics, assorted men of vision and a cat named Biggles — towering intellects every one of them. I am careful to put the padlock back on the latch as I tug the door shut.

"Good afternoon, Sinclair. Ringing for you. Good afternoon, Sinclair. Sorry can you hold. 256 ringing for you. Good afternoon, Sinclair. Putting you through now. Good afternoon, Sinclair. Yes and the same to you. Good afternoon, Sinclair. No, not in your ear, in the EAR socket at the back. Good afternoon, Sinclair."

The receptionist, all legs and hairdo, talks to a pencil. She is wearing earmuffs and filing her nails. She mouths at me. I gesture incomprehension. She mouths again. I blow her a kiss. Her response is frosty.

"You're through. Good afternoon, Sinclair. One moment please. What do you want? Good afternoon, Sinclair. Ringing for you. WHAT DO YOU WANT?"

"What would you have done if I'd told the world?" I ask.

"We'd have said that you were off your rocker. They'd have believed us. We're pretty reliable, you know."

I infer from the volume that this last is addressed to me. She looks displeased. I explain my business.

"Good afternoon, Sinclair. Go ahead. Hello. Here's another of those dozies to see you. This one's deaf. Good afternoon, Sinclair. Can I help you. No there isn't a left-hand drive version. Good afternoon, Sinclair. Ringing for you. HE'S COMING. SIT DOWN. Good afternoon, Sinclair. Yes, we haven't."

I look for a chair. The hairdo gestures at a line of bath-tubs against one wall. I perch on one nervously.

An inner door thumps open. Cambridge looms into view, striding briskly. He leads the way into an ante-room. A table, two chairs, proper ones this time. One wall is lined with Sinclair products like a Woolworth clearance sale. We sit down.

"Right, can you sign this, then I can talk to you," says Cambridge. He waves a piece of paper at me.

"Why?"

"Sorry, I can't tell you until you've signed."

"Can't tell me what?"

"I can't tell you why I want you to sign."

"What have you got to tell me?"

"I can't say."

"Have you got anything to tell me?"

"Perhaps."

"So," I say, thinking slowly, "it might be that I sign your bit of paper and then you say to me that you haven't got anything to say after all."

"Yes, it could be," says Cambridge cheerfully. "But there again," he says, leaning forward, "it's a pretty safe bet, isn't it, that I've got something to tell you? You wouldn't be brought all this way for nothing by a company like ours, would you? We're pretty reliable, you know."

I try very hard to look persuaded by this particular piece of intelligence because I don't want to hurt his feelings.

He looks like I've hurt his feelings. "Well look, just between you and me, old boy, fact is I have got something to tell you, so you can go ahead and sign."

I raise my eyebrows and scan his piece of paper. It reads:

Cambridge might have something to say to Oxfordshire and if he did then Oxfordshire mustn't tell anyone else unless that someone else already knows about it. If that someone else doesn't already know then Oxfordshire must pay lots of money to Cambridge and say sorry. In any case Cambridge might not have anything to say after all.

I read the agreement twice, trying to look as though I understand it. "Go on," prompts Cambridge, "I really am going to tell you something."

I sign. He grins. "We're going to sell the new Spanish computer in the UK."

"When? How much? What are you going to call it?"

"I can't tell you."

"When can you tell me?"

"I can't tell you."

I sit back and fold my arms. Cambridge leans forward again.

"Why don't you ask me a question I can answer?" he suggests helpfully.

I begin to piece the story together. The new computer is just very much based on the Spanish machine that we've already seen, without the keypad. Nothing revolutionary but progress nonetheless.

"Right-ho," says Cambridge, "If you extend one of your games specially to run on the new machines we'll advertise it on a piece of paper we're giving out with the computer. What's more we'll give you a Spanish machine to work with."

"What about the money you talked about on the phone?"

"You'll make that from selling your new game. All you've got to do is write the new program."

"Is that the easy bit you talked about?"

"That's right," he says, "you've got it. And we do the hard bit with the advertising and so on."

"Have you any idea?" I ask, leaning across the table belligerently, "have you any idea how difficult it is to write a good game?"

"Yes, absolutely. Jolly difficult I'm sure. But you chaps are awfully bright and clever. Not like us lot. We're not nearly as clever as you so we get to do the hard bit, like the advertising."

I can see that we're not going to agree so I try a new tack.

"Suppose you don't bring out the machine. What then?"

"It's not likely, is it? I mean we have to earn our living. Anyway, we wouldn't bother with all this if we weren't going to. After all, we're pretty reliable, you know."

The conversation is beginning to take on a familiar ring.

"OK, I'll think about it. Can I have a machine to play with in the meantime?"

"No can do. You've got to sign to say you're going to do something for us before I can let you have it. Made your mind up?"

"Yes," I say, "I'm going to go away and think about it."

"Right-ho," he says.

We move back to the reception area. Cambridge takes the padlock and shoves the shed door open. The autumn sunlight makes us both squint as he escorts me to the official car. The commissionaire has kindly refilled my thermos.

I climb aboard. "Tell me," I ask Cambridge thoughtfully, "what would you have done if I hadn't signed your piece of paper and then told the world that you'd got something you wanted to tell me?"

"Ahha," he says, "we thought of that one. We'd have said that you were off your rocker. They'd have believed us. We're pretty reliable, you know."

I press the starter button on the C5. The motor coughs, whirrs and, after a short pause, comes to life.

FAST COMPUTER REPAIRS

VIDEO VAULT INTERNATIONAL

10★ REPAIR SERVICE

ACCESS WELCOME

THE NO. 1 REPAIR CENTRE IN THE U.K. OTHERS FOLLOW

24 HOUR TURNAROUND

WHILE YOU WAIT SERVICE CALL FOR APPOINTMENT

KEYBOARD FAULTS SPECTRUM ONLY £8.95

SPECTRUMS REPAIRED for only **£19.95**
including **PARTS · INSURANCE** and **P & P.**

N.B. WE DO NOT CHARGE AN AVERAGE PRICE

NO HIDDEN EXTRAS

We don't give you a **between price** and let you guess the bill, we give you a 100% fixed price **NO** extras. We don't need to boast about our service, we have 1000's of customers from all over the world highly delighted with our service and help. Only 20 minutes from Manchester Centre. Commodore 16s, Commodore 64, Vic 20, also repaired call us for details. **Please note we never charge between prices.** Don't wait weeks for your repair, we turn around all computers in 24 hrs. All repairs carry a full 3 month guarantee, plus on every Spectrum we repair, we send you 4 free games worth **£25.80** for your enjoyment and pleasure.

- While you wait service by Professional Computer Engineers.
- 3 month written guarantee on all repairs.
- International Repair Company. We repair computers from all over the world.
- All computers sent by Mail Order turned around in 24 hrs.
- Most Spectrums repaired within 45 minutes.
- All Micros insured for return journey.
- Keyboard faults only £8.95
- School repairs undertaken - discount available.
- Free software with each Spectrum repaired.
- Over 8 years experience working with computers. All computers fully tested.

HOW TO SEND YOUR COMPUTER

Just parcel your computer in suitable wrapping enclosing **£19.95** for Spectrum repairs, please do not send power supplies. *Commodore computers, just send £1.75 (U.K. Eire, I.O.M. C.I.) or £8.50 (Europe/Scandinavia) with your* address or phone number and we will contact you same day by phone or letter with quote, if you prefer, please call us and we will give you a quote over the phone, we aim to please. That's what made us the most reliable and No. 1 Service Centre in the U.K.

TRADE REPAIRS most welcome

(SPARES AVAILABLE THROUGH OUR D.I.Y. SECTION.)

BEST SERVICE – BEST PRICES!

COMMODORES
* NOW REPAIRED *
Commodore 64, C16's, Vic 20, 1541 Disk Drives. Same Day Service. Call us for details or purchase the I.C's from our D.I.Y. section

NEW
VIDEOVAULTS 80K UPGRADE KIT. WATCH THIS SPACE FOR DETAILS

THE LOGICAL CHOICE

THERE'S NOBODY QUICKER IN THE BUSINESS AT PRICES THAT CANNOT BE BEATEN

***SPECIAL KEYBOARD UPGRADE**

Why not upgrade your Spectrum into a new keyboard, we can upgrade your old Spectrum into a new D.K. Tronics keyboard for only **£31.50** which includes fittings + return P & P and V.A.T.

Normal retail price £49.95 without fitting

ORDER NOW!

SPECIAL OFFER!
YOU CAN'T REFUSE
16K to 48K Upgrade
Upgrade your 16K Spectrum to 48K Spectrum for only £19.95 fitted including V.A.T. and P.&.P. (Issue 2 - 3 only)
(Retained by Public demand.)
To order the Upgrade Kit. (only £17.95.)

VideoVault D.I.Y. CORNER

We regret we cannot show all the components available. Just give us a call and we can quote you over the phone, delivery by 1st class post.

Spectrum Parts

Z80B CPU	3.50
4116 Rams	1.00
ZTX 650	0.60
Transistor ZTX 213	0.60
Transistor ZTX 313	0.50
Power Supply Units	9.95
Feet (Each)	0.25
16K to 48K Upgrade Kit	17.95
Sockets 16-40 Pin	14-50p
Cassete Leads	3.50
T.V. Lead	3.50
Keyboard Membranes	5.00

Commodore 64 Chips

6526	23.00
6510	23.00
6581	23.00
901227-03	23.00
901226-01	23.00
901225-01	23.00
6569	23.00
4164 Rams	5.00
Power Supply Units	29.00

All prices + P.& P. £1.50
But include V.A.T.

TRADE ORDERS WELCOME

STOP PRESS
MANCHESTER BRANCH opening shortly in the **City Centre.** Sorry for delay to all our Manchester customers.

VIDEOVAULT HEALTH WARNING!!!
Sending your computer to any other Repair Centre can seriously Damage its Health

7 OPEN DAYS A WEEK

VideoVault Ltd.

SERVICE ENGINEERS REQUIRED
ONLY 1st CLASS ENGINERERS NEED APPLY FOR OUR MANCHESTER BRANCH OPENING SHORTLY

Telephone: Glossop (STD 04574) 66555/67761
140 High St. West, Glossop, Derbyshire, England

SPECIAL OFFER
4 FREE GAMES
NORMAL RECOMMENDED RETAIL PRICE £25.80
YOURS FREE WITH EVERY SPECTRUM REPAIR

© Copyright Videovault Ltd. No. 151085

sinclair supermart

TO ADVERTISE IN THE SUPERMART CALL SINCLAIR USER ON 01-251 6222

THE BEST BACK-UP INTERFACE

£35.95 SPEC-MATE £35.95

automatic one touch transfer to:

★ MICRODRIVE ★ WAFADRIVE ★ BETA-DISK ★
★ TAPE DOUBLE-SPEED ★ SPRINT ★OPUS

Opus Users £2 extra. Opus & Sprint Users contact us for details

"The transfer procedure is simplicity itself" CRASH Magazine

1. Makes independent back-ups/transfers of *ANY* program.
2. Expansion port included. (You can keep SPEC-MATE attached if you want but you do not have to)
3. No additional software required. Fast, direct auto-transfer.
4. "Freeze" program at any point. (Can be used as save-game opt).
5. Finished in Spectrum style black case.
6. Add pokes with ease. 7. Reset feature included.
8. Convert any program into a 2 minute reliable Turbo loader.

A.T and Y Computing Ltd
35 Villa Road, London SW9 7NS.
Information: Phone 01-733 6175 or send SAE

Fully inclusive price: £35.95 (OPUS plus £2) (Europe +£2 other countries +£4)

SPECTRUM CODE CRACKER

ASSEMBLER, DIS-ASSEMBLER, TESTER DE-BUGGER, ON-LINE LEARNING AID and TEACH YOURSELF MACHINE CODE BOOKLET

"A different approach giving a highly usable package . . . most impressive test/debug features . . . invaluable guide to CPU" — PC Today Jul 85

Introduced 1984: customers in 12 countries

Write new programs. De-bug code that will not work. Single step/trace/display any code. Use direct equ/dynamic displays to learn/teach.

Tape only £7.95, Microdrive £9.75
ROYBOT SU2, 45 HULLBRIDGE ROAD, RAYLEIGH, ESSEX SS6 9NL
Write or tel: 0268 771663 for leaflets

???? SERIOUS SPECTRUM USER ????

8K RAM with Battery backup, In ROM map (de-selects ROM)

Easy to use, page in with NMI, software page out, read/write control.
Ideal for holding utilities, assembler, custom ROM routines. With software to use as a backup unit. Save any software, anytime etc.

£24.95 inc. Send to:
PIP ELECTRONICS, 14 Brayside Road, Burnage, Manchester M19 1PQ

SPECTRUM REPAIRS

SPECTRUMS REPAIRED FOR £20
includes labour, parts and return p&p.
Three months guarantee.

Send Spectrum with description of fault and cheque or postal order to:

KDM ELECTRONIC SERVICES LTD
24 BANK STREET
BRAINTREE, ESSEX
CM7 7UL
Telephone enquiries: 01-517 0108
RECOGNISED SPECTRUM SERVICE CENTRE

HINTS — POKES — MAPS

MONTHLY HANDBOOK FOR SPECTRUM OWNERS. HUNDREDS OF GAME PLAYING TIPS IN EACH EDITION, PLUS COMPETITIONS AND SPECIAL SOFTWARE OFFERS

SPECTRUM ARCADE HANDBOOK £1.00
SPECTRUM GAMES REVIEW HANDBOOK 75p
ADVENTURERS HANDBOOK £1.00

Send cheque or PO to:

H&D SERVICES (SU)
1338 Ashton Old Road
Higher Openshaw
Manchester M11 1JG
Tel: 061-370 5666

SPECTRUM — AMSTRAD — COMMODORE

NOBLES COMPUTER REPAIRS

* Repairs carried out by our own engineers on site.
* All repairs carry a 4 MONTH GUARANTEE

For estimates phone or send your computer to Derek at NOBLES.

Spectrum Plus ..... £14.95 inc parts post and pack
48K upgrade £24.95
TV repairs ..... from £17.50 plus parts

Also repair specialists for Amstrad, Commodore 64/Vic 20, BBC and MSX computers

NO HIDDEN CHARGES

★ SPECIAL OFFER ★

5 FREE GAMES WORTH £25

with each Spectrum repair Trade/School and Club discounts arranged.

* For free, no obligation estimates phone or send your computer to **NOBLES** for the fastest, cheapest repairs in ESSEX and Nationwide!

FULL RANGE OF SPECTRUM GAMES eg Z games £1.99
PLEASE PHONE FOR ORDER DETAILS

NOBLES
14-17 Eastern Esplanade
Southend-on-Sea
Essex

VISA

0702 63377/8 63336/7/8/9
7 days a week, 24-hour Answering Service

— ATARI — DRAGON — ORIC — EINSTEIN — MSX — ATARI —

SPECTRUM — AMSTRAD — COMMODORE

POOLS PREDICTION

Perfected over 6 seasons. Outputs best draws, homes & aways. Holds form comparison graphs. Analyses & graphs results. Takes full account of mid week games & "Cup" matches between main league teams. Promotion/relegation option (can be used from season to season). Easy to use, even for beginners. 56 wins (355 dividends) received by author so far.

"The best and most scientific of any Program I have seen" — Mr R.A.F. Secretary Orpington Computer Club. "Once again, thank you for one of the best investments I have made" — Mr D.L.B. Feltham. "I would like to congratulage you on your excellent service. It is a rare thing these days" — Mr L.G.P. Shrewsbury. "I found your Program very professional and user friendly, I am very satisfied with it" — Mr R.D. Spalding.

Ask for British Pools @ £11.95
Australian Pools @ £11.95

Allow 7 days for delivery. Cheques, POs payable to Romboot or quote Access card number.

Romboot Dept SU, 2 Wellland Croft, Bicester, Oxon, OX6 8GD. (0869) 248002.

Available for 48K Spectrum & Commodore 64. Add £2 for Sinclair microdrive or 1541 Disk Drive.

SINCLAIR SERVICE CENTRE

Fast repair service Spectrum: ZX81 Interface 1; Microdrive. All units repaired to original standard by our HNC qualified staff Average repair cost £15.00 but for free estimate send £1.95 return postage with a brief discription of your fault. Turnround approx 24 hours: established international service: our work is fully guaranteed Personal callers welcomed.

QUANTUM.
33 City Arcade, Coventry CV1 3HX
Phone (0203) 24632 or (0203) 714080

PREMIER LEAGUE and EUROPEAN TROPHY

FOOTBALL MANAGEMENT STRATEGY GAMES FROM E & J SOFTWARE

PREMIER LEAGUE

OUR POPULAR LEAGUE GAME — FEATURES INCLUDE: Training, Team Selection, Substitutes, Half-Time Scores, Full Squad Details, Named Goal Scorers, Team Styles, Save Game, Financial Problems, 5 Skill Levels. PLUS MANY, MANY MORE!

AND NOW

EUROPEAN TROPHY

A SUPERB EUROPEAN COMPETITION STYLE GAME WITH THESE GENUINE FEATURES: Home & Away Legs. Away Goals Count Double, 2 Substitutes Allowed, Extra Time, Penalty Shoot-Outs (with sudden death), Match Injuries, Injury Time, Match Penalties, 5 Skill Levels. PLUS MANY, MANY MORE!

SPECIAL FEATURE

Transfer your PREMIER LEAGUE Winning side into EUROPEAN TROPHY.

48K SPECTRUM

Both these top quality games use the Full Memory of your Spectrum and can be played separately or as companion games so STOP SPECTATING — START MANAGING.
Both games are available by MAIL ORDER ONLY at the UNBEATABLE VALUE of £5.25 each. Or send SAE for full details.

SPECIAL TWIN PRESENTATION PACK OF BOTH GAMES AVAILABLE AT ONLY — £9.95.

Price includes postage & packing (add £1.00 outside UK)

E & J SOFTWARE
34 Lordship Road, Cheshunt, Herts EN7 5DP

SPECTRUM • BBC • COMMODORE • APPLE • IBM-PC • AMSTRAD
EPSON • SEIKOSHA • PRINTERS • MOST MAKES OF DISC DRIVES

EXPRESS COMPUTER REPAIRS

When we say NO HIDDEN COSTS – we mean it!

NO HIDDEN EXTRAS

SPECTRUM REPAIRS
BETWEEN £9 AND £20

BBC REPAIRS
BETWEEN £14 AND £45

COMMODORE REPAIRS
BETWEEN £14 AND £35

GAMES WORTH £24 FREE
With every Spectrum repair!

MANCOMP sets the standards and prices – others follow

WHY PAY HIGH FIXED PRICES – OUR PRICES INCLUDE VAT, P&P AND INSURED DELIVERY!

1ST to provide 'while-you-wait service.

1ST with international repairs and discounts for Schools, Hospitals and H.M. Forces.

1ST to provide Insured/Recorded Delivery on return journey.

1ST with LOW CHARGES (e.g. £9 for keyboard faults).

1ST for PROFESSIONALISM – "Of all the repair companies 'Sinclair User' spoke to, MANCOMP seemed the most professional when it came to advice and a helpful attitude". *AUGUST 1985.*

1ST for SPEED – "One firm, at least, can usually effect any necessary repair 'over-the-counter' in 45 minutes. Based in Manchester, MANCOMP can offer what is arguably the fastest turnaround in the business, the personal callers".
'CRASH' Magazine, JUNE 1985.

If you want a cheapie repair go elsewhere. We don't do just the easy repairs. Every week we have to refuse several computers suffering from unprofessional repairs. Don't end up losing your computer by trying to save a few pounds.

1ST for ADVICE AND HELP – "I have come across a firm that will be more than willing to advise you as to how to remedy your problem. They are called MANCOMP, and as well as repairing faulty Spectrums, are also quite willing to discuss your problems with you, and offer reasonably cheap and (more importantly) CORRECT cures".
Phil Rogers 'POPULAR COMPUTING WEEKLY' JANUARY 1985.

1ST for LOW PRICES – "My Spectrum blew recently. I took it to MANCOMP, who fixed it in 8 minutes and for less than £10. They are local, 'clued-up' and blindingly efficient!"
COMPUTER COLUMN, '4 HEATONS DIGEST' (Vol 1, No.11)

1ST for HONESTY. Call in and watch your computer being tested and repaired while-you-wait. If there is nothing wrong we will tell you.

1ST for REPUTATION. We have a reputation built up over 2½ years of Spectrum, BBC, Commodore, Apple and IBM repairs.

OPEN 7 DAYS 9am-8pm

MANCOMP GUARANTEE

If the same fault occurs within 90 days of our repair, we will repair it FREE of charge and refund the postage.

COMPARE OUR GUARANTEE TERMS – YOU DON'T FIND ANY 'HIDDEN CATCHES' AFTER THE REPAIR!

ATTENTION ALL MANCOMP CUSTOMERS:
All repair companies have a legal obligation NOT to sell Sinclair spares to the public, otherwise our supplies get cut off and then we would go out of business.

UPGRADES

*THE BEST KEYBOARD FOR YOUR SPECTRUM – **THE SAGA 1 EMPEROR** **£39.95** INCLUSIVE!*
*SPECTRUM UPGRADE **£18** FITTED.*
*We repair hundreds of computers every week, so we can pass on our bulk-buying discount to you – Z80A CPU – **£1.50** 4116 RAM – **£0.50**.*

PHONE or SEND your computer (without power supply or leads) for FREE NO-OBLIGATION ESTIMATE! If you don't like our estimate we will return your computer AND refund the postage incurred.

FAST, REPUTABLE, HELPFUL, LOW-PRICE SERVICE.

MANCOMP LTD

(Dept)Printworks Lane, Levenshulme, Manchester
M19 3JP 061-224 1888 or 061-224 9888 OPEN 9am – 8pm

SINCLAIR COMPUTER REPAIRS

All machines dispatched within 72 hours of receipt

Spectrum: £17.00
ZX-81: £12.50
Spectrum 16-48K Upgrade: £25.00
(includes parts, VAT, and return postage)

For a fast and reliable service, send machine, brief description of fault and cheque or postal order to the experts:

CAPITAL COMPUTER SERVICES
Unit K2, Cardiff Workshops, Lewis Road, East Mourts, Cardiff CF1 461 5EG
Tel: (0222) 461801

TASWORD → QUILL

SPECTRUM TASWORD Docs transferred to QL QUILL Docs. £2 per doc (min £8).
SPECTRUM BASIC Programs transferred to QL *LISTING*+. 1p per line (min £5).
SPECTRUM DATA transferred to QL data files. phone for quote.

Send us a backup copy on cassette or microdrive cartridge (no originals) for an accurate copy for use on your QL. Confidentiality guaranteed, no copies retained. Similar services available. Phone or write for quotation. *Notes supplied to get your program running.

COLLEGE TYPING COURSE FOR QL. WPM and accuracy assessment for 100 exercises. Increase your typing speed to 45 WPM with this college method. Program £5.

Please add 75p postage and packing (£1.50 outside Europe) and cost of medium: Microdrive Cartridge £2 or 3½" Floppy Disc, £4.

SOLENT SYSTEMS (IW), 13 Forest Road, Winford, Sandown, Isle of Wight PO36 0JY.
Tel: 0983 865694

AZED WORD GAMES

*** For 48K Spectrum ***

ALL OUR GAMES INCLUDE A 20,000 WORD IN-MEMORY VOCABULARY. THEY ARE VERY FAST AND VERY CHALLENGING.

TAPE 1

XO WORD: Try to beat the computer at composing anagrams in this challenging game of strategy.
ANAGRAMS: Make amusing anagrams of friends names etc. e.g. Clive Marles Sinclair = Cries in small vile car (the C5?).

TAPE 2

WORDSEARCH: An infinite number of wordsearch puzzles each composed in a few seconds. Up to 60 words in each puzzle with 4 levels of difficulty, or use the program to create your own puzzle.
CHALLENGE: From its large store of 9-letter words, the computer selects one and jumbles its letters. The challenge is for you to make more words from the letters than the computer (which may find up to 100).

Send £5.95 for each tape or £10 for both to:
Azed Software, Silicon House, Dept SU, 3 Victoria Gardens, Henstridge, Templecombe, Somerset BA8 0RE.

NEW — SPECTRUM TAPE and DRIVE TRANSFER UTILITIES

TU8 — ESSENTIAL for ALL Spectrum owners — our tape utility for backup and drive conversion

- Simple operation for fast loaders — accurate even if over 48K (tone Baud and rate measurer).
- Deals with clicky loaders — converts COMPLETELY to normal for tape load (plus easy drive transfer with TP2).

COST only £6.99 on tape OR £7.99 on m/drive cart.

TRANSFER PACK 2 — FOR TAPE TO DRIVE TRANSFER

Package of programs including TU8, other utilities, allows drive transfer of many programs

- Details given on transfer of 40 programs.
- Manages virtually all clicky leaders. Bytes chopper/splitter, header reader etc.

State name of drive system (e.g. m/drive, Opus disc, etc).

ONLY £11.99 on tape OR £12.99 on m/drive cart.

OVERSEAS: add £1 Europe, £2 others for each. UPDATE SERVICE: — SAE for details.

PROGRAMS CARRY OUT MONEY BACK GUARANTEE (not updates)

LERM, DEPT SU, 10 BRUNSWICK GDNS, CORBY, NORTHANTS NN18 9ER

RACING LEAGUE

If you think that computer games are mostly variations on the same old themes then join the famous personalities in the RACING LEAGUE! This refreshing simulation game is for one to four players. Features include buying and selling of horses, betting, jockeys, loans, racing sequence etc. As in real life you will need skill and luck to succeed. Can you become Top Owner? A Save Option keeps the game going as long as you like. For 48K Spectrum and Spectrum Plus and only £3.50 post free from:

R. L. Software, 22 Lindale Garth, Kirkhamgate, Wakefield, West Yorkshire WF2 0RW.

SPECTRUM REPAIRS

Spectrum repairs £18.95 including parts insurance and P/P.

Send your computer with cheque or PO for £18.95 and description of the fault to:

SUREDATA (SU)
45 Wychwood Avenue, Edgware, Middlesex.
Tel: 01-951 0124

BANK MANAGER

Control your Home or Business Expenses. High Function Low Price, Full Screen Update, Auto Standing Orders, Analysis, Selection, Simulation, Statement Print, Help Text, Special Offers.

QL Version £10, Spectrum Version £5.

BRIDGEBROOK INTEK
45 Burleigh Avenue, Wallington, Surrey SM6 7JG

FREEPOST SPECTRUM REPAIRS

GUARANTEED SIX MONTHS

We have been maintaining all types of computer systems from mainframes to micros for over 15 years and offer you:

- Full overhaul and update with each repair.
- Six month warranty on *whole* computer – not only on repair.
- FREEPOST – We pay the postage both ways (UK).
- Returned to you by 1st class post. Fully insured.
- All inclusive prices for any fault £20.

MP ELECTRONICS, FREEPOST, DEREHAM, NORFOLK NR19 2BR3
TEL: 036287 327

FREE SPECTRUM REPAIRS?? SEE MANCOMP AD. ON PAGE 111

ASTROLOGY for beginners

A Starter Pack for the **48K Spectrum** comprising a simple program to calculate a horoscope, an introductory booklet & 2 self-teaching programs (how to interpret the horoscope)

only £11.50
(+50p outside UK)
also Dutch & German versions

Many other programs for experienced astrologers

Payment by UK cheque/PO/Access or large SAE for free catalogue to

ASTROCALC
(Dept SU)
67 Peascroft Road, Hemel Hempstead, Herts HP3 8ER Tel: 0442 51809

M-DOC

The essential Microdrive utility.

Have you precious files on a cartridge which will still CAT but no longer load? M-Doc to the rescue!

● Find, load, repair and rewrite bad sectors, and hence load damaged files ● Full status reports pinpoint faults quickly ● Monitor-type sector editing ● Full printer support ● "Filter data" option for "text files, eg: Tasword ● Separate program makes corrupted BASIC programs editable ● Only **£6.95.**

"For Spectrum 48 Kort". Available from good computer shops and Micronet 800. Also via fast mail order (UK postfree, Europe add £1, overseas add £2 airmail) with Doc upgrade £2.50 (please return cassette only). Trade enquiries welcome: phone R&R Distribution on 0977 795544.

SEVEN STARS — **Seven Stars Publishing, Dept U, 34 Squirrel Rise, Marlow, Bucks SL7 3PN. Tel: 06284 3445**

48K SPECTRUM. Saga Emperor keyboard, VTX5000 modem, Seikosha printer, printer and joystick interface, cassette player, Kempston joystick, lots of software, only £390. Write: S. Jackson, 12 Salerno Road, Hilsea, Portsmouth PO2 9PP.

SPECTRUM (48K). Fruit Machine simulation, accurate and addictive, superb 'spinning' graphics and sound. Featuring (auto) nudge, (auto) hold, multi-gamble, supaseries, mystery steps, exchange, bonuses, +++more. 1-5 players. Only £9.95. J. Lydon, 7 Halfleet, Deeping, Peterborough.

DYNAMIC DIVER 48K Spectrum. Exciting machine code arcade game. 69 screens. Collect treasure and oxygen in underwater city. Avoid monsters. Send £5 to Dynamic Software, 11 Pethybridge, Lustleigh, Devon TQ13 9TQ.

BROTHER HR5 PRINTER plus accessories; Kempston 'E' Interface (Mk 1). Both little used, in good condition. Suitable for Spectrum and Spectrum +. £110 or near offer. Tel: (0603) 406242.

SPECTRUM+ £50 with 26 tapes at £3 each. E.g. Hacker, Dragontorc, Mined-out, Super Code 3. Also a light pen at £10. Ring Clifton Hampdon 7141 any time during the evening.

FREE MEMBERSHIP Spectrum Software Hire. Have you ever bought a game and found you didn't like it. Why not try the game first. Low costs for free catalogue. Send SAE Bristol Software Hire, 41 Millmead Ha, Hartcliffe, Bristol, BS13 0JW.

BACKUP INTERFACE £24.95 inc. One key saving, program/screen, anytime using "The Button". No transfer functions. Based on 8K RAM, battery backed. Send to PIP Electronics, 14 Brayside Road, Burnage, Manchester, M19 1PQ.

WAFADRIVE with word processor and seven blank wafers. Very good condition, only £50.00. Phone Cameron Taylor on 01-519 0330.

NEW MAG. Pokes galore and m/drive conversions. All in one bumper issue. Only £2.50 inc p&p overseas add 50p cheque or PO only please. You'll be glad you bought it. M. W. Littlefield, 6 Battenburg Road, St George, Bristol BS5 7LZ. Tel: 541883.

TIPS AND POKES No 8. Hundreds of tips and pokes on all the latest games, also reviews, charts, helpline news, letters and much more. Send only £1 to J Driscoll, 78 Headstone Lane, Harrow, Middlesex HA2 6HW. Tel: 01-863 1855.

FREE introductory, educational words and pictures program for young 48K Spectrum users. Send blank tape with suitably stamped addressed return packet. Pie Programs, 70 Ringwood Drive, North Baddesley, Southampton SO52 9GT.

FREE MEMBERSHIP Spectrum Software hire, latest titles, originals only. Send a SAE for your membership kit to: Spectrohire, 26 Jamieson Street, Arbroath DG11 2AZ.

ADVERTISEMENT INDEX

Advance Memory Systems 93
AGF 8
Arcade International Software 19
Bargain 76
Betasoft 83
Cascade 22
Cheetah 133
CP Software 69
Cross Software 21
Datel 98
Digital Integration ..... IBC
Firebird 34,77,83,91
Frel 77
Gargoyle 48
GCE Tutoring 16
Gemini 65
Gilsoft 83
Glentop 98
Imagine 45
Kempston 54
Logic Sales 21
Mancomp 111
Martech ..... IFC
Megasave 16
Micronet 27
Microsphere 51
Mikro Gen 39
Mirrage Micro 91
Mirrorsoft 31
National Software Library 19
Ocean 14,26,36,72,86
Opus Supplies 56
Prospero 87
Pyramide 92
Ram Electronics 52
Realtime 23
Romantic Robot 19
Saga Systems 94
Selec Software 18
Shekhana Computers 81
Software Library 81
Software World 6
Speedysoft 74
Tasman 78,79
Technology Research 62
Transform 16,82
Trojan 77
Ultimate 42
U.S. Gold OBC,66
Video Vault 109
WD Software 21
ZX Microfair 20

Next month is our **50th** issue.

What will we do to mark this great event?

Sack the editor? Maybe.

Slag off lots of important software companies for producing rubbish? Possibly.

Write massive detailed reviews of all the best games like . . .

The Force — if Argus sends us a copy.
Heavy on the Magick — If Gargoyle finishes it in time.
Goonies — If US Gold has started it yet.
Street Hawk — you've got to be kidding.

We'll do our best.

What about a 37-page guide to boring old word processors? Just try and stop us.

So as Gordo loosens his belt in preparation for the feast and Chris 'Lunchbreaks' Bourne puts in a massive advance order for Vodka, make sure you join in the party.

It starts on April 17 and if you don't buy a copy you'll never know what you missed.

Reach an estimated readership of over 250,000 users per month for as little as £5.00*

Or if you are starting your own small business advertise in the supermart for only £17.00.

Yes all you have to do is fill in the coupon below including your name, address and/or telephone number and send to: Supermart, Sinclair User, EMAP, Priory Court, 30-32 Farringdon Lane, London EC1R 3AU.

Maximum 30 words.

Your advert will appear in the earliest possible edition.

Name .....
Address .....
..... Tel: .....

Have you included the fee of £5.00 or £17.00?

***for second hand sales only**

Conditions:
The Advertisement Manager reserves the right to alter, reject or suspend an advertisement without assigning any reason. Advertisements are accepted subject to approval of copy and to the right to the Advertisement Manager to alter, reject or cancel any order without explanation. The Proprietors are not liable for any loss from any cause whatever, nor do they accept liability for printers' errors. The Advertisers shall indemnify the Publishers in respect of any claim, cost and expenses arising out of any libelous or malicious matter or untrue statement in any advertisement published for the advertisers, or any infringement of copyright, patent or design therin. The placing of any order will be deemed to bean acceptance of these conditions.

GOOD BYTE

SPECTRUM

GAME	RRP	OUR PRICE
Sky Fox	£8.95	£6.70
Bounces	£9.95	£7.45
Streethawk	£7.95	£5.95
'V'	£7.95	£5.95
Nightrider	£7.95	£5.95
Commando	£7.95	£5.95
Lord Rings	£15.95	£11.00
Rock & Wrestle	£9.95	£7.45
Halleys Comet	£8.95	£6.70
Icups	£8.95	£6.70
Friday 13th	£8.95	£6.70
Maxheadroom	£9.95	£7.45
The Force	£9.95	£7.45
Hunchback II	£7.95	£5.95
Falklands 82'	£7.95	£5.95
Way of the Tiger	£9.95	£7.45
Vectron	£7.95	£6.70
Turbo Esprit	£8.95	£6.70
Nomad	£7.95	£5.95
Gold Run	£7.95	£7.45
30 Games	£9.95	£7.45
Back to Future	£9.95	£7.45
West Bank	£7.95	£5.95
The Art Studio	£14.95	£10.95
Surf Champ	£11.95	£8.95
Gerry the Germ	£7.95	£5.95
Rasputin	£7.95	£5.95
Zoids	£7.95	£5.95

Joysticks

Quick Shot II	£5.95
Konix Speed	£9.95
Comp Pro	£14.95

ALL PRICES INCLUDE P&P — QUICKSHOT II ONLY £6.50
PLEASE NOTE IF YOUR ORDER EXCEEDS £40 YOU GET 10% FURTHER DISCOUNT
SEND CHEQUES/PO TO: GOODBYTE 'SU', UNIT 10-11, IMPERIAL STUDIOS, IMPERIAL ROAD, LONDON, SW6 TEL: 01-731 4607
GAMES AVAILABLE FOR MOST MICROS
EXPORT ORDERS: ADD 75P per tape — TRADE ENQUIRIES WELCOME

Gremlin

NERVOUS TIMES, it seems. Gremlin was not invited to the launch of the **Spectrum 128,** and after hearing what happened Gremlin knows why. But if **Sir Clive** reckons he can avoid the column so easily he's wrong.

Clive's big hand

Imagine, if you will, the holiday snapshot-style slide show **Sinclair** puts on for its launches. Hacks sit breathless as the scréen shows a gigantic eight foot metal-rimmed hole. "Here is the TV slot" intones some Sinclair flunkey. Gruesome stuff.

This time, however, proceedings were enlivened by a soundtrack which opened with stirring martial music.

It dissolved into storms of canned applause, while the assembled hacks dissolved into gales of laughter . . .

Spanish practices

Ice hockey fan **Jason** of **Friday 13th** fame may not be setting you alight in Britain. But the pixellated pervert seems to appeal to Spaniards, according to **Domark's** chief horror, **Dominic Wheatley**.

Dominic regales Gremlin with a tale of how his Spanish distributor, one **Jose,** was over in London explaining why.

"I saw a review in *Zzap 64*", said Jose, "which is not a good review. We won't make the same mistake in Spain. We pay the man, we get a good review. We don't get a good review, we break his legs."

Gremlin would like to inform Jose and any like-minded Spanish distributors that his legs were broken long ago, and now resemble rubbery tentacles with no crunchy bits left at all . . .

Boring exclusive

Yawn Computing is up to its old tricks again with yet another so-called exclusive on the **Spectrum 128**. This makes life tough for us in the office as **Chris** 'Lunchbreaks' **Bourne** works himself into another drunken fury and threatens to ram unopened cans of baked beans down *Yawn* editor **Gary Evans'** throat.

Gary, please stop now. Before it's too late . . .

Tropical diseases

Remember **Pong?** It was the very first video game, in which a ball wobbled lazily back and forth across the screen while suckers like **Edgeley** tried to hit it with a bat while offloading the rent money into the machine at the same time.

The peculiar guy who invented Pong was **Nolan Bushnell,** an obscure Californian who went on to found **Atari**. Which must prove something.

Anyway, Nolan's back in town after a long rest by the pool with his latest creation, the **Petsters**. These are electronic cuddly toys which speak to you in strange buzzing noises.

One of the toys is a cuddly mosquito, which seems odd. Does it give you malaria? Well, it's nice to think there are still enough software distributors around to create a reasonable market for the bloodsucking little insect . . .

Gratuitous sex

Last month Gremlin got steamed up about smutty computer games. So far the response has been a little disappointing — November 1983 is as far back as we've got.

J R Beavis has a nerve putting forward **Robin of Sherlock** as a candidate, considering it was only released three months ago. OK, so Maid Marian's chastity belt can be unlocked if you know how, but it's obvious Beavis has never had an illicit relationship with Legoland in **Bored of the Rings**.

And what about the android in the early version of Artic's **Ship of Doom**? Come on guys, you can do better than this . . .

Potty training

There are charts, damned charts, and **CDS** press releases, as **Disraeli** once said. So it's not surprising CDS wins the **Brazen Backslapper of the Month Award** for its latest piece of flummery.

The company which brought you **Steve Davis Snooker** and **Colossus 4 Chess** claims to be the 'sixth software house' ahead of 'both **Firebird** and **Ultimate**'. This remarkable claim is based on a list of the top suppliers to distributor **Websters** for the previous year.

Websters must have bought an incredible quantity of CDS software over the period, and one wonders what happened to it all. The press release suggests phoning CDS agent **Dave Carlos,** and promises those who do will learn about life north of Watford and be in at the start of something big. There are however limits to what journalists can reasonably be expected to do, and this is one of them.

STOP PRESS: Websters no longer distributes software.

Love for sale

Gremlin got no valentines at all this year, which is hardly surprising. **Domark,** on the other hand, decided to make a few bob out of romance and offered to shove **Valentine Estate Agents** signs in your loved one's front garden for 40 quid.

Things started to go wrong when the bloke with the signs failed to turn up on time for an **ITN** interview. Further disasters followed, with **Dominic Wheatley** re-positioning signs which went to the wrong address in the middle of the night.

"My wife didn't get hers, and neither did **Bill Scolding**", wails Dominic. Other customers included **Clement** 'sex symbol' **Chambers** of **CRL,** who ordered two. Gremlin is pretty sure the first was for himself, but who can the second one be for? Certainly not the programmers of **iD,** which is now being rewritten because the first version was so awful . . .

If Virgin Games' Nick Alexander thinks he can get into Gremlin just by wearing a silly hat and holding a vacuum cleaner he's dead right.

Scolding at bay

Quite a few fanzines seem to be coming through the post, and the competition seems to be worrying **Bill** 'incorruptible' **Scolding**.

Gremlin, however, rather enjoys these murky corners of the publishing world. So, it appears, does **Design Design,** which seems to have two concurrent interviews, one in *The Bug,* and the other in *Interface,* in which **Simon** 'toadface' **Bratell** explains how all **EMAP** magazines are biased in favour of **Beyond**.

For the record, Simon, we were biased in favour of Beyond before we joined EMAP, continued to adore Beyond while it was part of EMAP, and now **British Telecom** is in charge we'll probably loathe everything it brings out, especially **Scooby** nominee **Superman**.

Incorruptible Scolding would also like to point out that he's never received a free dinner or crate of wine from Beyond. Is this a record . . . ?

Thorny problem

Finally, a series of questions to which Gremlin will probably never discover the true answers.

Who sent our very own **Norisah** 'indispensable' **Fenn** a single perfect red rose for Valentine's Day?

Why is her typing so much better these days?

What has suddenly made ad manager **Louise** 'WPC' **Fanthorpe** so jealous?

Gremlins reckons **David White** of **Saga Systems** has a hell of a lot to answer for . . .

Argus employees try to promote their new police game *The Force* by arresting the Sales Manager. This is called zapping yourself in the foot, at which Argus is a universally-acclaimed expert.

ONLY THE BRAVEST FLY....

TOMAHAWK

New, from the author of Fighter Pilot... a stunningly realistic helicopter simulation that puts you in command of an Apache Advanced Attack helicopter. You will learn to take off, to land, to manoeuvre and locate and destroy enemy tanks using Hellfire anti-tank missiles. You will experience authentic battlefield conditions as you endeavour to carry out your mission and return safely to base.

BY D.K.MARSHALL

48K SPECTRUM

Digital Integration would like to thank McDonnell Douglas for all their help and technical support.

Spectacular 3D cockpit view with over 7,000 ground features.
Authentic aerobatic performance.
Ground attack and air-to-air interception, with laser guided missiles, rockets and 30 mm. gun.
Doppler navigation and target tracking.
Day/Night vision systems.

Cloudy, Crosswinds, Turbulence.
Pilot ratings — Trainee to Ace.
Impressive sound effects.
Pilots Notes.
Twin Joystick Option.

SINCLAIR USER CLASSIC

SPECTRUM			
Tomahawk	48K	☐	£9.95
Night Gunner	48K	☐	£6.95
Fighter Pilot	48K	☐	£7.95
COMMODORE 64			
Speed King Disk		☐	£12.95
Speed King Cassette		☐	£9.95
Fighter Pilot Disk		☐	£14.95
Fighter Pilot Cassette		☐	£9.95
AMSTRAD CPC 464			
Fighter Pilot		☐	£8.95
Fighter Pilot Disk		☐	£13.95

Cheques payable to Digital Integration Ltd

I enclose a cheque/P.O. for _____ Total

Name _____

Address _____

_____

_____

_____

VAT and p. & p. inclusive within UK (Overseas inc. 55p. per cassette)

Please debit my Access/Visa card no.

Tele Sales (0276) 684959

Expiry date _____

Access VISA

Trade and Export enquiries welcome. Lifetime Guarantee.

Please send to DIGITAL INTEGRATION
Watchmoor Trade Centre,
Watchmoor Road,
Camberley, Surrey
GU15 3AJ

A number one arcade hit for your computer

KUNG-FU MASTER

The OFFICIAL coin-op video game

COMING SOON

The ONLY martial arts game YOU ever really wanted.

DATA EAST

U.S. GOLD

Travel through the wizards temple to rescu the fair maiden, beware the weapon weilding hench-men, defeat the deadly guardian of the five floors.

U.S. Gold Limited,
Unit 10, Parkway Industrial Centre, Heneage
Birmingham B7 4LY. Tel. 021-359 8881